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" Salvation of India lies in Cottages."

—*MAHATMA GANDHI*

INSIDE VIEW OF RURAL DEVLOPMENT PROGRAMME

WITH the advent of the age of planning in this country, rural development activities form an integral part of national planning. The community projects, National Extension Services and village panchayats which cover large part of the country are the agencies to develop village life in its many-fold aspects. A set pattern of working with, of course, local variations has been designed to achieve targets of development in various directions.

During the last six years, we have come in close contact with the working of these agencies in many parts of the country and have made detailed study of their working. Impressions formed as a result of many of our study-tours of these projects have already appeared in these columns. And we have not hesitated to state the truth, as we saw it, however distasteful it may have been to the powers that be.

Our studies have revealed that the working of these agencies over which huge sums of public money have been spent in recent years is mostly unplanned, unmethodical, hap-hazard and therefore unproductive of wished for results. It suffers from basic flaws of wrong conception, inefficient working, wrong approach and ineffective execution. If there is one issue over which official and non—official opinion seems to be sharply divided in this country it is the working of the Community Projects and the National Extension Services, created by the administration for the development of rural areas. While our Prime Minister and those in authority claim that these schemes have revolutionised the countryside, made rural population plan—conscious and popular response to these measures have been beyond expectation, people vehemently denounce and criticise this huge wastage going on in the name of development both in parliament and outside.

Test of Planning

If the first five—year plan has been a success and the national income has increased by 18% during the period of the first plan, which is claimed by the authorities, people should be seen appreciating these measures and show greater interest and enthusiasm in the implementation of the Second Plan which is not the case. The climate in the country is hardly favourable to planning, such as is being carried on, and he would be a bold-man who could say that the people in the country really feel enthusiastic about the Second Plan which is in operation. If one moves about among the people whether in rural or urban areas, the climate in the country is one of complete apathy and unconcern about these plans. There is no stir or conscious feeling among the people that they are in the midst of the Second Plan and that they and their Government are engaged in a serious effort to develop the country.

Nobody, not even the officials concerned seem to be bothered as if there is a plan in operation in this country and they owe it to the nation to implement it successfully. Except those who are officially or professionally connected with the plan, nobody seems to care to read it or to know of its various targets, to think of its efficient or inefficient working and to feel for one's own contribution to make it a success. In big cities like Bombay, Madras, Bangalore, or Delhi which are centres of intellectual, social and political activities, one hardly comes across people and institutions hold-

ing lectures, debates and discussions on the National Plan and showing their interest in its progress. Except publication of occasional official announcements, the press in the the country appears to be silent as to what is going on about the first or the second plan. If all this is true, which, we believe it is, the plan has failed in its basic object to arouse people's enthusiasm and its success is obviously doubtful.

The people seem to be only reminded by the Prime Minister and other concerned Ministers at the top in connection with the inadequacy of the resources to finance the plan. They should tighten their belt, bear increasing burden of taxation cheerfully and find money to finance the plan is the usual theme of their appeal without ever caring to explain to the people as to how efficiently and economically the people's money is being used in the implementation of the plan and how they stand to benefit when it succeeds.

Though the plan is being called a 'Democratic Plan' and a 'People's Plan,' the common people or for the matter of that even aducated people have hardly any share in conception, framing or even in the implementation of the plan. They know not what the plan really is? what its targets are? how these targets would be attained? and above all how the frightening amount of Rs. 5300/- crores would be raised and made available during the current planned period. The people who have all their life fought with penury and extreme poverty and lived a half-starved existence fail to comprehend as to how these thousands of crores would immediately drop down from the blue skies at the bidding of our planning authorities. All this has rendered planning in this country a jugglery of figures, illusory, unreal and inconceivable by the people making them indifferent and unconcerned about its progress.

Financial Plan

Our planners have chosen to frame these plans finance-intensive rather than labour-intensive, which obviously seems to be a wrong approach to planning in a country where there is extreme dearth of capital formation and major portion of population live only half-starved existence. They seem to overlook the fact that the people have only limited taxable capacity and that they are already overtaxed. It is beyond them to finance these grandiose plans, howsoever well-intentioned they may be.

Then, if the people demand balance-sheet of the *outlay* of the first plan, which is completed and which has costed the country about Rs. 2000 crores, the planners keep silent. They again demand money to the tune of Rs. 5300 crores to finance the Second Plan, which needs financial outlay of about three times that of the first, without taking into consideration that there was already a fall of about 20% in meeting the financial targets of the first plan. If the resources of the country fell short of meeting the financial needs of the first plan which is now officially known as a modest plan, the people fail to understand how the second plan, known as ambitions plan involving an outlay of Rs. 5300 crores would be financed. With diminishing prospects of foreign aid, stagnant economy at home and inflationary hazards attending to deficit financing, reason demands that our planners should curb their ambition to pile up huge and frightening figures, which are obviously unreal. One fails to understand as to what makes our planners to fool the people with this jugglery of unreal financial figures which are based on false assumptions.

Sad Wastage

Deplorable as this unrealistic and deluding planning is, it makes one sad as to how our public money is being wasted on developmental schemes. Leaving aside cases of muddles and embezzlements of public funds, which are too numerous and are already known to the people, practically half of this developmental money goes into the pockets of salaried staff by way of salaries, allowances and T. A's., leaving only a fraction to be spent on actual development works.

In the schemes of rural development which is the sphere of our special study allotment of finances is made on 50-50 basis i. e. people have to contribute 50% of the expenditure either by way of money contribution or labour to claim another 50% of funds from government sources. Obviouly, people's contribution in rural areas takes the shape of labour. In disbursing public funds, Corruption, wrong estimating and misappropriation of public funds by development machinery in co-ope-

ration with crafty and cunning people seems to be the rule rather than exception. Various devices have been invented by both government officials and the people to misappropriate and misuse public money which has largely undermined public morale in rural areas and made people dishonest and corrupt. All this is a sad commentary on our planning and mal-administration.

In one of the meetings in a Community Project when people were asked to state benefits accrued to them as a result of starting the project in that area, most of the villagers kept silent. One audacious villager stood up and blurted out in the face of government officials that the only benefit of the project of which he is aware is, that they have all become dishonest.

Since disbursemsnt of public funds has become the hall-mark of efficiency of a Project Officer and these allotments have to be spent before the financial year is out the Project Officer has no other go but to distribute money recklessly and in most cases indiscreetly without taking into account the propriety or utility of the object for which public funds are being spent. The poor village people, who are mostly hard up of money for their domestic as well as agricultural needs have discovered in these allotments a perennial source of easy finance which they contrive to secure in the name of one or the other development object. If judicious checking of the allotted expenditure in a project area is made, it would be discovered to the dismay of our planning authorities that most of this money is ill-spent and improperly spent and development works for which it was given have either remained incomplete, or badly done or not even attempted at all and a large fraction of this money was pocketed by the concerned and interested parties.

One of the Engineers attached to Community Project and has reputation for honesty was asked by a Project Officer in Madhya Pradesh to check up development works had reported to him at the end of his labours that not even 50% of the people to whom money was allotted for specific development works used up that entire amount for construction or completing the works for which it was taken, rearly 25% people used only half of this amount and about 10% of them swallowed up the entire amount without doing anything worth the name. Here, the Engineer had no illusions of 50% contribution of the people which in most cases is a make-belief and bogus affair. He started with a clear understanding with the Project Officer that he would base his judgement on the amount of government allotment and would consider a person honest if he had used up the entire allotted money in building or constructing specific item of work for which it was given. The results shocked him as well as the Project Officer. And this was reported to us by the Engineer himself.

Development works like roads, schools, hospitals, wells, tanks, bunds, drainages etc. carried on under this duel arrangement of 50-50 contribution in project areas suffer in quality, construction and design and they present a poor specimen of performance. Most of these works, after the allotted money is pocketed by the people, remain incomplete. In order to put off the evil day of reckoning, the people resort to delaying tactics and invent series of excuses to passify checking authorities, if there be any. Since. it is a 'Democratic Planning' it is difficult to take any drastic action to get back public money when once it goes to the pockets of the people Under these conditions, which appear to be universal, development programme in rural areas rather than raising the standard of the people morally and materially has become a fruitful source of their demoralisation. And it is the black-mailer, corrupt and dishonest element in villages, which is enjoying rich harvest out of this development money.

Loop-holes in Planning

Indian scene is dominated by political and international ambitions since the advent of Independence and every measure, including planning and administration, is intended to sub-serve political ambitions of those who rule the destiny of the country. Planning, therefore, ceases to be economic and scientific planning in this country and is used as an instrument to win Elections every five years and to consolidate the party position of the ruling party. Loop-holes and drawbacks of the plan which, of course, are serious, as pointed out earlier, are matters of no consequence to the authorities so long as the plan serves the basic purpose of party propaganda. The weaknesses and criticism of the Plan are usually covered up by the

leaders of the party by giving it new names every time to suit their purpose and to silence their critics. It is variously called, People's Plan, Democratic Plan, flexible plan, perspective plan to explain to the critics the difficulties and drawbacks of the present plan. Wastage and demoralisation of the people that is going on under it therefore, does not prick the conscience of the authorities so long as it retains propaganda value for party ends.

These drawbacks and short comings are echoed and re-echoed both in parliament and out-side from time to time. The working of development plans is being vehemently criticised by both Congress as well as opposition leaders. Lately, on the debate on the second plan in the Lok Sabha Shri Ashok Mehta of the Praja Socialist Party is reported to have stated:—

"The economic emergency existed in the country and the only way to meet it was through emergency measures.

"Things were not going on as planned. The short fall in the resources was alarming. The gap in the foreign exchange resources was widening. The rise in national income was "tapering down". The economy was still stagnant and the country was suffering from "Economic Indigestion."

What Shri Mehta forgot to mention in the course of his review of the plan is that while the problem of unemployment is increasing in the country both in rural and urban areas at an alarming speed, national character is deteriorating precipitately at the end of the first plan.

Loss of National Character

Craze for material advancement of the country through successive plans has made our planning authorities to ignore the fundamental basis of development which is national character. No plan will ever be succesful if this basis is weakened. In his Convocation address of Agra University, Vateran patriot and Ex-Governor General Shri C. Rajagopalachari has stressed the need of national character in the efficient fulfilment of our plans, when he is reported to have said :—

"The efficient fulfilment of all national development plans in the country depended on *character*, a sense of true values, a firm adherence to the obligations of duty and a horror of dishonesty and meanness.

"The loans we take from foreign Governments carry simple interest but the deterioration of character goes on with compound interest."

It is a pity that in their 'magnificent adventure' of developing the nation materially our planners and administrators seem to discard religion, Indian history and tradition on which alone national character could be built. This wrong approach to planning has produced rich crop of universal corruption, dishonesty, indiscipline, irresponsibility and loss of national character. And the nation is witnessing a distressing spectacle of developing 'Gandhi's India' by our present day leaders at the cost of loss of national character and morals.

DEFICIT FINANCING AND PLANNING FOR FULL EMPLOYMENT

By : **JAGAT SINGH**

INDIA has adopted its national goal of economic policy as full employment through a resolution of Parliament towards the close of the year 1954. Other advanced countries anxious to avoid spectre of depression had advocated full Employment as the goal of their economic policies soon after the end of the war. British Govt. issued a white paper on full Employment in May 1944. In 1945 Australia adopted full Employment as the goal of its economic policy. Swedish Govt. appointed a Post war Economic Planning Commission to draw up its Economic Policy. In U. S. A. full Employment Act of 1946 was passed.

In the charter of the United Nations, full employment has been recognised as a necessary basis for economic stability, peace and progress throughout the world. Maximisation of National income through optimum use of natural resources and maximisation of international trade are a pre-requisite of full Employment Policy. These objects are also the goal set for International monetary organisations. Their object is to secure full employment through free trade by eliminating sudden changes in national incomes and tariffs. Sudden changes in national income are the result of variations in the level of employment.

Maintenance of a high level of demand coupled with progressively increasing rate of investment are essential to maintain a high level of employment and maximum utilisation of resources. Existence of colonial rule and exploitation of backward countries go contrary to the policy of full employment in the world as a whole. Exploitation of resources of backward countries reduces their national income and propensity of consumption thereby reducing their demand for foreign goods and consequent fall in the level of employment. Therefore development of backward countries through International Bank for Reconstruction and Development and the like agencies is as much a responsibility of the world as a whole as of the individual countries. The logical conclusion of this policy if carried out in terms of national policies is to end exploitation of the poor and to raise their standard of living to step up demand of goods; and thus to raise production and national income. Thus to increase demand to maximum in a country, it is essential to bring about equitable distribution of wealth between the nationals of a country.

Industrial countries of the west have been striving for full employment to maintain their war time level of production and employment. But position in India is different. Here the problem is to harness our physical resources to increase production-agricultural and industrial and to provide full employment to our idle manpower. Our national income per head was Rs. 246/15/- in the year 1939-40. Following is the table of national income of various countries :

	Australia (Million £)	Canada (Million S)	U. K. (Million £)	U.S.A. (Million S)	India (Crore Rs,)
1939	900	4,500	5,000	80,000	
1945	1300	10 000	8,250	182,000	
1951	3,000	17,000	11,500	280,000	9,000

The above table shows that level of production in India is very low. Our resources are lying idle and unutilised on the one hand and the man power is not only being wasted but has been undergoing hardships in the shape of unemployment, want, hunger and disease. It is a sad state of affairs. Economic conditions were further aggravated by war time inflation and partition. Partition of India not only uprooted a large number of population but led to loss of surplus wheat, cotton, rice and jute growing land. It made the country deficient both in agricultural and industrial raw materials and produced a delicate economic situation. First Five-Year Plan of India was formulated in such critical times and emphasis was therefore laid on boosting up agricultural production. The country has rightly adopted its national goal of full employment on the eve of big industrial programmes envisaged in the 2nd Five-Year Plan.

Financing the 2nd Five-Year Plan

Total expenditure in the 1st plan has been about 2000 crores of rupees-nearly the same as originally envisaged, but short by Rs. 350 crores out of the total outlay of the revised plan. The 1st two years of the plan were mostly spent in controlling inflation and the development expenditure was stepped up from the 3rd year of the Ist plan. National income rose from Rs. 9110 in 1951-52 to Rs. 10,800 in 1955-56 in terms of 1952-53 prices an increase of 11% in per capita income.

Growth of income envisaged at the end of 2nd Five-Year Plan is from Rs. 10,800 crores to Rs. 13,420 crores in terms of 1952-53 prices-an increase of about 25%. Following is the break up of total outlay in the 2nd Five-Year Plan.

	Rs. crores
1. Surplus from current revenues	800
2. Borrowings from the public	1200
3. Other budgetary sources	400
4. Resources to be raised externally	800
5. Deficit financing	1200
6. Gap-to be covered by additional measures to raise domestic resources	400
Total	4800

The most controvercial point at present is whether we can go in for deficit financing to the extent of Rs. 1200 crores. Deficit financing is essential in developing economies of backward countries, short of capital, but commensurate with the rate

of growth of national income. Otherwise the result is inflation.

During war time total expenditure incurred by the Central Govt. was Rs. 1750 crores for this country and Rs. 1400 crores for the allies. Out of the expenditure of Rs. 1750 crores, Rs. 613 crores were raised through loans. Expenditure of State Govts. amounted to Rs. 764 crores. Thus total expenditure incurred during war time was Rs. 1750 crores + Rs. 1400 crores + Rs. 764 crores = Rs. 3914 crorers. Bulk of this expenditure was incurred during the last three years of the war. Inflation during this period is measured by the increase in note circulation and demand deposits which aggregated to Rs. more than Rs. 1450 crores. Notes of about Rs. 800 crores were printed to meet the demand of purchases by the allies.

We should therefore judge deficit financing of about Rs. 1200/- crores in the background of 25% increase in national income envisaged at the end of the 2nd five-year plan. The following table gives the money supply with the public.

Year	Currency with public (crores of Rs.)	Deposit money (crores of Rs.)	Money supply with public (crores of Rs.)
1950-51	1339	640	1979
1951-52	1216	587	1803
1952-53	1199	565	1764
1953-54	1229	564	1793
1954-55	1311	608.8	1920
1955-56	1505	679	2184

Deposit money includes demand liabilities of banks and other deposits with bank.

To maintain the existing price level at the end of 2nd plan necessary increase in money supply should be $2184 \times \frac{125}{100}$ = Rs. 2730 crores. At the existing rates between currency with the public and deposit money share of increase in currency would be Rs. 378 crores and in deposit money of Rs. 168 crores. If all the increase in deposit money is utilised by Govt., and all other sources of finance including foreign assistance are fully met, a deficit of Rs. 656 crores-roughly half of total deficit financing figure is left out. After deducting this extra deficit financing figure from the total outlay, the original figure of Rs. 4300 crores as envisaged in the draft plan appears ideal from the point of view of investment and maintenance of existing price level at the end of 2nd Five-Year Plan. Reserve Bank of India Act has been amended in July 1956 to overcome this excessive deficit financing. The main provision of the bill are:—

(1) minimum holding of Rs. 400 crores in foreign securities and Rs. 115 crores in gold (value of gold held at new rates agreed to between the International Monetary Fund).

(2) Variation in the reserve requirements of scheduled banks within the range of 5 to 20% in respect of demand liabilities and 2 to 8% in respect of time liabilities.

The previous provision required that foreign exchange reserves held by the Reserve Bank of India should increase in response to the increase of notes in circulation, restricted the ability of the Bank to supply the growing requirements of the currency in a developing economy. It is proposed that sterling balances might be brought down to the level of Rs. 200 crores at the end of 2nd Five-Year Plan. Hence the above restriction has been done away with.

Now the question would be whether by restricting the increase in deposit money with banks and financial controls general increase in price level can be checked. Controls whether financial or physical can overcome temporary increases in prices or shortages. We should not ignore undue increase in currency with apathy when we are yet to plan in terms of 3rd., 4th, 5th—plan still. If the expansion of bank money is checked or controlled, velocity of circulation of currency would increase, when Govt. is going to increase its expenditure. We should not lose sight of the fact that in India currency circulation is more important than bank money. Following tables in respect of other countries clearly state that banking facilities have not developed in India.

(Total money supply in various countries)

	Currency	Deposit	Total	
1938-39 (millions of A.B.	40	141	181	Australia.
1951 ,,	315	1174	1489	
1938-39 (million of canadian dollars)	238	850	1088	Canada.
1951 ,,	1275	3568	4843	
1938-39 (billion of L)	.46	1.19	1.64	U.K.
1950 ,,	1.29	3.99	5.28	
1938-39 (billion dollars)	5.8	26	31.8	U.S.A.
1950 ,,	25.4	92.3	111.7	
1950-51 (Crores of Rs.)	1339	640	1979	India.

Percentage of deposits to currency in circulation in India is only about 48% where as in other countries this figure ranges from about 300% to 400%. All financial controls can only prevent hoarding and direct bank credit to desired channels. But it cannot stop a general price rise consequent upon a general increase in currency circulation because deposits do not form the main source of money supply in India.

The emphasis should therefore be laid in giving priority to the execution of essential and more productive projects. The great difficulty in achieving the plan targets is the availability of enough foreign exchange. A general rise in prices would adversely affect our capacity to earn foreign exchange. Excessive deficit financing instead of helping to achieve the plan targets may in the long run adversely affect our competitive position in international trade.

Therefore it would be more desirable to increase our present plan outlay of Rs. 4800 crores by Rs. 400 crores and spread the total expenditure on yearly priority basis over six years. Instead of waiting for the 3rd. plan, more important projects should be included in the 2nd plan from now so that all of them may be completed by the end of the 6th year of the 2nd plan. The revised second six year plan should go a long way in achieving our plan targets in full in addition to being a success financially.

THE PROBLEM OF BIRTH CONTROL IN GANDHIAN ECONOMIC THOUGHT

By : **S. N. JHA**

MALTHUS, an English economist, pointed out towards the latter part of the 18th century a theory about the growth of population. According to him, population increases in geometrical progression but food supply increases in arithmetical progression. To balance the gap between the growth of population and the food shortage he advocated what he called 'preventive checks', i. e. if the people marry late, abstain from frequent sexual intercourse, or if some of them do not marry. If the preventive checks are not adopted, there will be 'positive checks', the devices adopted by nature, i. e. starvation, famine, epidemics and diseases and even war. Whereas the Malthusian theory, it is assumed, does not always hold good elsewhere, in India it is true. Many economists are of opinion that the food supply has not increased in proportion to the growth of population in our country. There are also others who are of opinion that our country is not over-populated.

It is argued that the problem of population should be viewed in relation to an optimum population, i. e. the best desirable number of population. Modern economists are of opinion that the rate of growth of population should be compared, not with that of food supply alone, but with that of the total wealth of the country. But Gandhi held, "We cannot afford to blindly imitate the West. In the West, if they do certain things they have antidotes for them too ; we have not. Take the instance of birth control. It may seem to work well there, but if we took to the practice of birth control as it is being advocated in the West, in ten years there will be a race of eunuchs in India."

Consistent with his way of simple and contented life, if people adapt themselves and all labour for their bread and no more, the question of over population does not pose itself, "If all laboured for their bread and no more, then there would be enough food and enough leisure for all. Then there would be no cry of over-population, no disease and no such misery as we see around."

Gandhi strove in the hope of attaining this ideal, "This may be an unattainable ideal. But we need not, therefore, cease to strive for it. Even if without fulfilling the whole law of sacrifice, that is, the law of our being, we performed physical labour enough for our daily bread, we should go a long way towards the ideal." Gandhi believed that sex urge has been isolated from the desire for progeny hence the undesirable impact of it. He thought that the marriage should be regarded for the act of creation alone and then the catastrophy may be avoided. He strongly objected taking recourse to contraceptives as the way of birth control, "I want to revert to the subject of birth control by contraceptives. It is dinned into one's ears that gratification of the sex urge is a solemn obligation like the obligation of discharging debts lawfully incurred, and that not to do so would involve the penalty of intellectual decay. This sex urge has been isolated from the desire for progeny, and it is said by the protagonists of the use of contraceptives that conception is an accident to be prevented except when the parties desire to have children. I venture to suggest that this is a most dangerous doctrine to preach anywhere; much more so in a country like India where the middle class male populahas become imbecile through abuse of the creative function."

"Marriage loses its sanctity when its purpose and highest use is conceived to be the satisfaction of the animal passion without contemplating the natural result of such satisfaction".

Gandhi realized the necessity of birth control but through self-control, i. e. brahmacharya and not through the use of contraceptives. "There can be no two opinions about the necessity of birth control. But the only method handed down from ages past is self-control or brahmacharya. It is an infallible sovereign remedy doing good to those who practise it. And medical men will earn the gratitude of mankind, if instead of devising artificial means of birth control they will find out the means of self-control". He preferred moral restraints, "Moral results can only be produced by moral restraints. All other restraints defeat the very purpose for which they are intended".

The way to introduce self-control is education, "If we begin to believe that indulgence in animal passion is necessary, harmless and sinless, we shall want to give reins to it and shall be powerless to resist it, whereas if we educate ourselves to believe that such indulgence is harmful, sinful, unnecessary, and can be controlled, we shall discover that self-restraint is perfectly possible".

"The sex education that I stand for must have for its object the conquest and sublimation of the sex passion. Such education should automatically serve to bring home children the essential distinction between man and brute, to make them realise that it is man's special privilege and pride to be gifted with the faculties of head and heart both; that he is a thinking no less than a feeling animal...and to renounce the sovereignty of reason over the blind instincts is therefore, to renounce a man's estate". Gandhi did not believe India being over populated and therefore no necessity of birth control on that score, 'If it is contended that birth control is necessary for the nation because of over-population, I dispute the proposition. It has never been proved. In my opinion, by a proper land-system, better agriculture and a supplementary industry, this country is capable of supporting twice as many people as there are today".

Since the man is aggressor, Gandhi did not mind voluntary sterilization in case of man but not woman, "It is better that husband and wife should live apart. I consider it inhuman to impose sterilization law on the people. But in cases of individuals with chronic diseases, it is desirable to have them sterilized if they are agreeable to it. Sterilization is a sort of contraceptive and though I am against the use of contraceptives in case of women, I do not mind voluntary sterilization in case of man since he is the agressor."

IS FOOD ADEQUATE IN THE SECOND FIVE-YEAR PLAN?

By : **Prof. C. L. KHANNA.**

IF we look back over a span of about hundred years or so the Food Front of India presents a kaleidoscopic panorama. From a net exporter in the sixties of the last century our country degenerated into the position of a net importer of food in the forties of this century. India became a famished land, a land inhabited by emaciated and famine-stricken people which started living from "ship to mouth" especially during the six long years of the Second World War and thereafter. It is a strange paradox that India-a predominantly agricultural country - has had to encounter the challenging problem of food for its swelling stream of population. It was in the face of this crucial situation that the First Five - Year Plan made "food" as its focal point and out of its aggregate outlay of Rs. 23560 million about Rs. 11080 million, or forty seven percent of the planned expenditure, were marked for programmes of agricultural production. In the Second Plan also it has been recognised that "the current levels of living in India are very low. Production is insufficient even for satisfying the minimum essential needs of the population and a large leeway had to be made before the services and amenities required for healthy living can be brought within the reach of any significant proportion of the population". Although the core of development during the next quinquennium is rapid industrialisation and increased employment, yet the provision of food-the first basic essential of life - cannot be ignored with equanimity or without peril. With a view to seeing as to what extent the Second Plan proposes to meet the food needs of our country we propose to analyse a few facts within the compass of this article.

Food requirement

In any Plan worth the name both the quantitative and qualitative aspects of food for human consumption have to be carefully considered.

As regards the quantitative needs, we find that the demand for food in India would rise in the future due to the following reasons :-

(1) It is a platitude to say that India's population is growing from day to day, month to month and year to year. Population growth imposes the stern necessity of increasing food supply by all the available means. The rising population has therefore the first impact on food. The trend of population over the next two decades is estimated to be as follows :

Table I

Year	Size of population	Annual rate of increase of population
1. 1951	356,000,000	1.25 percent
2. 1955-56	384,000,000	1.25 percent
3. 1960-61	408,000,000	1.25 percent
4. 1965-66	434,000,000	1.33 percent
5. 1970-71	465,000,000	1.33 percent
6. 1975-76	499,000,000	1,33 percent

Obviously there would be an increase of 24,000,000 mouths during the next five years. The argument that where there is one mouth to be fed there are two hands to work does not hold valid in the case of our under-developed country where unemployment reigns supreme even now. The question of feeding the additional mouths is indeed, very alarming and calls for serious attention.

(2) The second factor affecting our food demand is the enhanced purchasing power.

The Planning Commission has estimated that in consequence of the increased investment the national dividend during the ensuing five-year period will mount up by about 25 percent and the per capita income by about 18 percent. Consequently the consumption expenditure would rise entailing increased demand for food. The behaviour of the national income and the consumption expenditure is indicated below:

TABLE II

(At constant price of 1952-53)

Year	National Dividend. (Rs. Million)	Per Capita income Per Annum in Rupees.	Assumed rate of saving as percentage of national dividend	Aggregate consumption expenditure per head per annum in in Rupees,
1. 1950-51	91,100	250	5	237.5
2. 1955-56	108,000	281	7	261.3
3. 1960-61	134,800	331	11	294.3
4. 1965-66	172,600	396	14	340.6
5. 1970-71	216,800	466	16	391.4
6. 1975-76	272,700	546	17	453.2

*N. B. This rate is assumed to remain constant in the subsequent Plans.

With the step-up of the national income it is not imperative that all the products and services in the community should flow at the same rate. The Planning Commission itself observes that "Certain items like, say, cereals may increase only moderately, while the other items in consumption may increase several fold".

(3) The high income levels will mean better living standards and the high consumption standards are synonymous with improvement in diet. More and superior food will be in demand. The experience of war times shows that with the rise in incomes and consumption standards most of the people turned to wheat and rice in substitution for coarse grains e. g. jowar, bajra and maize etc. The extent of this shift in dietry habits does not admit of precise measurement but it cannot be gainsaid that the change is much in evidence.

(4) The contemplated deficit financing of the order of Rs. 10,000 millions, which is likely to generate the much dreaded inflationary tendencies, is yet another cause to call our attention to increase the 'food requisites'. The Plan under implementation observes in unequivocal terms:

"A major safe-guard (against the adverse consequences of deficit financing) is the building up of sufficiently large stocks of food-grains in order to counteract inflationary pressure that may emerge from time to time."

It may be stated in this context that the Planning Commission has authorized the Union Government to purchase six million tons of foodgrains, wheat and rice, during the Second Plan period and to build up permanently a 2-million-ton base. These buffer stocks are expected to serve as shock absorbers of inflationary tendencies or other untoward exigencies.

By the end of the Second Plan India will, it is estimated, be able to produce 75,000,000 tons which means an increase of 10,000,000 tons over the mark reached at the end of the First Plan. The proposed target will give 18.3 ounces as against 17.2 ounces of food per head per day at present. As agriculture in India still continues to be a 'gamble in monsoon' it is unpredictable whether the tentative targets will be attained. Secondly, the production trends given below, of food and money crops over the last five years manifest a marked predilection for the latter :

TABLE III

Index Numbers of agricultural production

Item.	1949-50	1951-52	1952-53	1953-54	1954-55	1955-56
1. Foodgrains	100.	91	101	118	112	111
2. Non-foodgrains.	100.	111	104	106	117	122
3. All commodities.	100.	98	102	114	114	115

It is in consideration of these facts, perhaps, that buffer stocks are being built up and the imports of foodgrains from abroad will continue. The latter step is not to be misconstrued as India's dependence on imported grains. On the other hand, it implies security and stability on the food front. The food imports will, in a way, serve as second string to the bow to keep at bay the nightmare of hunger and famine in whose cold grip India remained for about a decade.

Nutrition and Diet.

It is no exaggeration or over-optimism to cherish the hope that the quantum of progress in providing subsitence food will be maintained. But the majority of Indians will not have enough of nutrition. At present cereals constitute the major content of our daily food intake and "protective diet" is conspicuous by its absence. The result of this mal-nutrition and under-nourishment is that it 'increases the morbidity and lowers the efficiency of industrial workers and contributes towards absenteeism, lateness and low output; while among the cultivators it increases the predisposition to diseases, raises mortality, especially infant mortality and leads to agricultural idleness, indebtedness and poverty which pursues its heartless course in an ever-widening vicious circle.' This takes us to the discussion of what a nutritive diet is and what is our requirement.

While there is unanimity on the ingredients of a balanced diet, the Bombay Plan and the Nutrition Advisory Committee of the Indian Research Fund Association drew up the following diet table in terms of the Indian dietary habits:

Table IV.

Balanced diet according to

Item	Bombay Plan Ounces per adult per day.	Nutrition Advisory Committee. Ounces per adult per day.	Actual consumption of food in ounces.
1. Cereals.	16	14	17.2
2. Pulses.	3	3	2.8
3. Vegetables:			
(i) Green leafy)		4	–
(ii) Non leafy (including tubers etc.))		6	–
4. Fruits.	2	3	1.5
5. Whole milk.	8	10	5.0
6. Sugar	2	2	1.4
7. Fats and oils	1.5	2	–
8. *Fish and meat)	2.3	3	–
9. *Eggs)		1 No.	–

* N. B.—Milk and Fish, meat and eggs are alternative diets.

Our intake of cereals compares favourably with the balanced diet indicated above but this is only energy-giving food. The other contents in the nutritional foods are very much below the required standards. In terms of calories, the existing food consumption of an adult yield 2,200 calories which would rise by 250 calories to 2450 by the end of the Second Five-Year Plan as against 3,000 calories recommended by nutrition experts. It follows from this that an average Indian is able to consume only 82 percent of the required amount of calories of energy. The aggregate food supply in 1960-61 in India is estimated to be 75 million tons. Estimated on the basis of 100 calories per ounce per average Indian food-grain, 75 million tons would yield 268.8 billion calories. As against this, the required caloric value works out to about 384.2 billion for 408 million souls (averaged into 'Man value' at the rate of 86 percent of the total population) consuming 3,000 calories per day.

Realising the importance of increasing the production of fruit and vegetables in improving the caloric value of diet and in the diversification of agricultural production, the Planning Commission has allocated an expenditure of Rs. 80 million for horticultural development. The State Plans similarly envisage rejuvenation of about 5 lakh acres of existing orchards and about 2 lakh acres of new orchard land.

The second Five Year Plan also envisages stepping up of milk supply in an adequate measure to meet the needs of about 30 percent of the population, which is vegetarian. It contemplates an increase of about 30 to 40 percent in milk output with a view to raising the daily milk consumption. Before the First Five-Year Plan the total milk output was estimated at 18 million tons, 42 percent of which was converted into curd, butter, khoa, ghee and other products; the fluid milk used for consumption being only 38 percent. It is desired that the milk intake should rise from 5 ounces to 15 ounces per head. But it appears to be only wishful thinking.

Remedial Measures

Mal-nutrition and under-nutrition are rooted in the poverty of our country. If adequate food resources are to be administered, we must increase productivity and also augment the purchasing power of the consumers by generating more and better employment opportunities and by ensuring equitable distribution of wealth and income in the country to be more precise, the food problem is to be identified with agricultural prosperity. The following measures may be taken with advantage :—

1. Extension in the cultivation of land;
2. Intensive utilisation of the land under cultivation at present;
3. Rational utilisation of land resorces;
4. Less dependence on Nature;
5. Better technique of production;
6. Radical reform of the land tenure system so as to eliminate parasitic class dependent on land;
7. Population control;
8. Liquidation or scaling down of rural indebtedness;
9. Development of agro-industries; and
10. Emotional awareness of the masses for high living standards.

These are only broad indications of the steps which are calculated to achieve the ends set forth in the above few lines. The details can be worked out which would perhaps require another article.

Conclusion.

We have seen above that while the food target envisaged in the Second Plan will meet the additional requirement due to the pressure of the ever-increasing population,

it may prove insufficient to offset the inflationary spiral following in the wake of deficit financing. It may also fail to produce sufficient exportable surplus for earning foreign exchange. In the circumstances our Prime Minister, Shri Jawahar Lal Nehru, expressed the desire in the Indian Parliament while presenting the Second Plan on May 15, 1956, that food production should be stimulated from the planned low level of 15 percent to 40 percent over the target reached in the First Plan. This issue became a moot point at the Conference of Food Ministers held recently at Mussorie. Mr. Ajit Parshad Jain, the Union Food Minister expressed his appreciation of this approach but regretted that the new targe seemed to be inaccessible with the available resources. However, the limit of 25 percent increase over the existing scale of production has now been stipulated. Nothing however has been said about the improvement in nutritional value of the diet. It is needless to repeat that the food problem will ever remain unless double-pronged attack on improving both the quantity and quality is made on concerted basis. It is to be hoped that the traditional approach to the problem is abandoned and a more rational and scientific outlook is brought to bear on this question of far-reaching importance.

FIXATION OF CEILINGS ON AGRICULTURAL HOLDINGS

By : **A. N. SHARMA**

Introduction

THE well known phenomenon of subdivision of holdings has brought about in India a situation which has become a limiting factor in the enhancement of agricultural production as well as in the prosperity of the teeming millions who subsist on land. Long back, Dr. Mann explained the situation by study of the size of holdings. According to him the average size of holdings in the village Pimpla Soudagar in Poona District was as much as 40 acres in 1771, from 1820 it long remained stable at 14 acres, but in 1915 it was reduced to 7 acres. He remarked that in last 60 to 70 years the character of land had altogether changed. This situation of uneconomic holdings is common to the entire country, and is said to be responsible for the declining performance of agriculture. Though the problem has remained untouched for long, but now the step which the Union Government have taken in the shape of a new law for providing ceilings and floors to agricultural holdings is commendable.

Objectives of fixing a ceiling.

The main objects of fixing ceilings on holdings are :—

1. To increase the efficiency of agriculture. Efficiency is the relation of output to the input complex of labour, equipment and the like, that we refer to as the efficiency ratio. And greater output per unit of input is another way of defining increased efficiency. The efficiency is said to have increased if factors of production are utilized in a better way. Regarding the size, Colin Clark argues that high output per wage earner is associated with increasing size of industry rather than increasing size of plant. Though this is best suited to agriculture, it does not hold good for too large a size. Though the efficiency increases with the increase in size, it does so to a certain limit only.

A recent study in the village Sakhoti Tanda (Meerut) of U. P. comparing the

efficiency with the size of the holding puts the case in a more concrete shape :–[1]

Group	Size of holding in acres	Cost of cultivation in Rs.
A	upto 5	440/-
B	5 - 8	355/-
C	8 -12	321/-
D	12 -15	316/-
E	15 -20	280/-
F	20 -30	288/-
G	above 30	287/-

The table shows that the cost of cultivation varies inversely with the size of holding. The cost of cultivation on smaller size of holding is higher than that on the larger size of holdings. Upto group E there is a decreasing tendency and after that there is slight increase in cost of cultivation per acre. The highest cost is on group A which contains smallest size of holdings. The least cost is on Group E which contains holdings from 15 to 20 acres. Therefore, as the table reveals, both the extreme types, either too small or too big, are uneconomical. There is a certain limit where the efficiency is maximum. Though this limit varies from region to region, in no case can it be highest where area is very large, say hundreds of acres. Hence from the view point of efficiency a limit to size is a necessity. And if we wish our agriculture to make progress, redistribution of land is of paramount importance, and it cannot be brought about without fixing a ceiling on land holdings.

(2) To bridge the gulf between 'haves' and 'have nots'. In the present agricultural situation in the country though the smaller holdings have a predominance yet there are holdings which are exceptionally bigger than the average size. The following table shows the gap between the smallar and the bigger holdings in various States:—

State	Holdings from 0-5 acres.		Holdings above 100 acres	
	P. centage of holdings.	P. centage of area	P. C. of holdings.	P. centage of area.
U. P.	81.2	31.8	0.4	3.4
Bombay	15.31	14.0	0.59	10.45
M. P.	51.5	10.0	0.94	16.5
Orissa	74.2	30.2	0.1	5.9
Mysore	66.2	25.3	0.3	5.4
P. E. P. S. U.	45.4	8.2	3.4	12.1
Coorg	76.0	30.0	1.9	27.0
Madras	82.2	41.2	0.3	7.8

The above table[2] reveals a very interesting study. The percentage of holdings in 0-5 acre group is much larger than the percentage of area in that group in every State. But in the other group of above 100 acres the case is just the opposite, i. e. the percentage of area is much larger than the percentage of holdings. In other words, in the former case there are surplus men or labourers whereas in the latter case it is area which is predominant factor. These are two contradictory situations. The disparity should be removed because from the view point of 'Social Justice' a state can ill afford to let the case of the unprotected go neglected for long.

Under these circumstances it appears to be very necessary to distribute the land equitably, and this can hardly be done without providing ceilings on land holdings. Pandit Nehru in his speech at the meeting of the Congress Parliamentary Party in New Delhi in April, 1954 said : "Abolition

1 Vijai Pal Singh, 'Efficiency of agriculture on various size of holdings in Sakhoti Tanda village of Meerut, 1951 an M. Sc. Ag. thesis, Deptt. of Agriculture Economics 'B. R. College, Agra.

2 Economic Review, Vol. V Nos. 18-19 p. 42.

of zamindari system does not mean that we have solved the land problem. It is wrong to think so because many problems remain even after that. I am quite positive in my mind that there should be a ceiling on land and that the sooner it is brought about the better, although what that ceiling will be will depend so much on the quality of land and so many factors." Pandit Nehru further emphasized upon dealing with the middle landlords after the zamindaris and jagirdaris have been abolished. He was of the view that as soon as the ceilings were fixed the middle landlords would immediately divide the land amongst the family members so that each person would get just the economic holding and there would not be much land left for distribution.

The First Five Year Plan has made it quite clear that one of the basic principles of India's land policy ought to be that there should be an absolute limit to the amount of land which any individual may hold. This limit or ceiling on land holdings will naturally have to be fixed by each State in accordance with its own agrarian history and the present circumstances. The Planning Commission has, therefore, set up a Central Land Reform Committee to assist various States in collection of requisite land data for the fixation of ceilings on land holdings. The Planning Commission has also divided large individual holdings into two categories: (1) those which are so efficiently managed that their break up would result in a decline in production, and (2) those which do not meet the required standards. For the latter category the Commission recommended that land management legislation should be undertaken by different state governments as early as possible.

Principles of Fixation of Ceilings

(a) One of the principles generally adopted in determining the ceiling is that a holding should not be much bigger than what a family can cultivate with the help of the family labour, and hired labour only now and then. It seems unjust, on the very face of it, to let one possess a holding being cultivated with the help of a number of hired labourers and others having so small a holding which cannot utilize fully even the family labour and there being many others who are landless. The Act of 1946 in Japan provided a maximum of 7.5 acres unless a family proved that it had sufficient family labour to cultivate a larger holding. The land Nationalization Act of 1948 of Burma provided that the land in excess of ceiling would be taken up by the Government and would be redistributed to peasants on the general basis of the area that could be cultivated by one yoke of cattle per family. The idea behind these reforms seems to be that as far as possible the family should not possess land which is much in surplus to its controlling capacity.

(b) Secondly, while fixing a ceiling it is generally taken into consideration that the existing production may not fall. For this purpose generally the farms which are even bigger than the limit are exempted from the limit as an exception, if they are likely to lose the production rate if cut short in size. In the Central Peoples' Government of the Peoples' Republic of China the Agrarian Reforms Law of 1950 was amended later on to provide that the land belonging to rich peasants, with special exceptions, was not to be redistributed just to eliminate the misgivings on part of the middle peasants regarding increase in production. The Act of 1946 of Japan also exempted from ceiling those holdings the sub-division of which would result in decreased production.*

Other Considerations in Fixing Ceilings.

In Fixing the ceiling generally plantation estates are excluded because of their special

* Towards A Socialist Economy by S.N. Agarwal p. 57

* Land Reform, U. N. Publication, p. 55.

nature of management, and the ceiling in their case is supposed to break up the production levels. In Burma, for the same reason and in Mexico, for example, we find that while reducing the legal size of holdings plantations are exempted from being limited in size.

The ceiling of the holding (which is a target) should not be fixed in the very beginning, but may be achived gradually. Without giving a sudden shock it facilitates the peasants' adaptation and adjustment to every new step taken between the beginning and the target. Besides, the same ceiling is not fixed, as a rule, to every land. Everywhere it has been fixed according to the type of soil, or type of crops, or in other words according to the agrarian situations of the area.

While fixing the ceiling in India a special concession should be granted for plots of land which are cultivated on co-operative basis so as to save joint-families from disintegration.

The Planning Commission in its meeting on 3rd Jan., 1956 has rightly exempted the following categories of farms from the purview of ceilings.

1. Composite enterprises such as tea, coffee and rubber plantations.

2. Orchards, where they constitute reasonably compact areas.

3. Specialized farms engaged in cattle breeding, dairying, wool raising etc., and,

4. Highly, efficiently managed farms which consist of compact blocks on which heavy investment or permanent improvements have been made, whose break up is likely to lead to a fall in production.

Compensation.

As regards compensation for land the payment will be made available after the fixation of ceilings. Payment will be spread over a period of 20 years in bonds as has been done in most of the Asian countries where such reforms have been introduced.

The existing position.

So far some of the Indian States have taken steps to limit the future acquisition of land. The position is as follows ;—

State	Limit of holdings,
1. U. P.	30 acres.
2. M. B.	50 acres (dry land)
3. Delhi	30 standard acres.
4. Hyderabad	3 family holdings,
5. Saurashtra	3 economic holdings.

The opposite view point.

(1) One of the arguments given by the antagonists is that simultaneous legislation for limiting incomes in urban sector should also be undertaken, and the ceilings on landholdings should be immediately followed by fixation of ceilings on city incomes as well. The view is quite appreciable since an economic revolution cannot be confined to land alone; it must touch all sectors of our national economy. But, when on the one side, tenancy legislation, abolition of zamindaries, ceilings on holdings are the steps towards land reforms there are on the other the Acts like Factory Acts, Shops and Commercial Establishments Act, Minimum Wages Act, death duty, income tax etc., through which it is sought to limit the urban incomes and improve the living conditions of the urbanite poor. And even if no reforms have been done on urban side it is never advisable to check the improvements in the rural side merely on the ground that urban side has not been touched.

(2) The argument that ceilings would impair production levels of good farms which are few in the country has been refuted by the provision that highly efficiently managed farms will be exempted from ceilings.

(3) The third argument which is raised against ceilings is that the disintegration of the bigger farms in its turn will increase

the difficulty in providing proper farm finance, when the Government is faced with the problem of adequate finance even to the existing holdings. No doubt cheap credit facilities should be provided together with the ceilings, like that in Mexico, so that an improvement in the technique may be brought about. The recommendations of the Rural Credit Survey report of the Reserve Bank, when implemented, will bring about a lot of improvement in the finances of the village side.

Conclusion.

Thus we conclude that ceiling is to be provided with certain exemptions which have already been declared by the Governments. While limiting the size of the holdings the right of the town-dwellers on land should be seized and if such farms are well managed they should not be broken up but may be run on a co-operative basis by those who wish to share. Lastly the tenancy legislations, now to come, should aim at scaling down the land rents, ensuring the security of tenure and ensuring the security of employment to at least permanent labourer.

MAXIMISING PROFITS IN FARMING

By : **DR. S. P. DHONDYAL**

A FARM is a producing as well as a business unit. Thus farming is a way of life and a business to progressive farmers of the world. In India, to a vast majority of the farmers, farming is still a way of life. The farmers are poor and illiterate and their holdings small and fragmented. The agricultural implements, tools and technique of cultivation are primitive, but well adapted to the existing situation. The soil is exhausted due to continuous cropping for centuries without replenishment of the lost food material. Farming is still a gamble in the rains. The cattle, are expensive equipment, being poor and undernourished. The marketing system is defective because the markets are unorganised and primitive in character. Provision of cheap credit is extremely inadequate and cottage industries undeveloped and unorganised.

With the above overwhelming handicaps of the situation under which an Indian farmer works, the fact remains that agriculture has dynamic character. It must move in conformity with scientific findings. The farmer knows the art of agriculture very well, but he is a poor businessman. He needs scientific knowledge in respect of the use of improved agricultural practices and control of insect pests and diseases alongwith the adoption of better marketing practices. There are opportunities for him to maximise his profits within the framework of his available resources.

A Case Study

The writer, as a teacher with a batch of 8–10 students, was allotted a village named Nauraiya Khera under the auspices of the Agricultural Extension Service of the Government Agricultural College, Kanpur, to improve the farm returns of the village through his practical experience, educational background and farm management studies.

In the first year of the allotment of task in 1952, a detailed agro-economic survey was made in respect of the soil, cattle, implements, condition of crops, varieties used, cropping programme, nature of agricultural holdings and the like. The survey gave the following information :—

	Village–Nauraiyakhera
Total area of the village	556.6 acres
Fallow	125.0 ,,
Usar land	131.1 ,,
Area under cultivation	310.5 ,,
Percentage of the area irrigated to the total cultivated area	99.5 ,,

Type of soil—Mostly sandy loam and patches of clayey loam were also present.

	Village-Nauraiyakhera
Number of bullocks	55 pairs
Total number of families	110 ,,
Number of agricultural families	59 ,,
Number of non-agricultural families	51 ,,
Size of agricultural holdings varied from	4-6 acres

Crop Rotations

Paddy-Pea; Paddy-gram; Fallow-wheat; Jowar (fodder)-Gram and Fallow-Wheat

To start with, digging of compost pits, cleaning roads, writing mottos, demonstration of the use of meston ploughs and harrows were taken in hand. Though these types of work created some interest in the village folk, yet it was clear to the author that such activities would not materially increase farm returns. The Primary problem of concern was to evolve some effective measures which would visibly bring an improvement on the farm-business within the available resources of the farmers.

None of us could definitely tell the farmers to increase their farm income without adequate capital resources and credit. But we thought of the methods which could influence their decision in adopting better agricultural methods with their personal resources and desires. The decisions, which we were to take, depended much on the practical aspects of the suggestions that fitted with their farming programme.

The first step we took was to find out the net farm income per acre to come to some judgement in respect of the line of action to be taken for developing those resources of the farmers which would respond easily to efforts involving less use of capital. The result of investigation of 10 farms as representing the area was as below:

Size group	Number of farms	Net income per acre
2-4 acres	2	Rs. 135/-
4-6 ,,	5	,, 128/-
6-8 ,,	2	,, 121/-
above 8 acres	1	,, 98/-

When the farm sizes and their net incomes were put into size groups and calculated per acre in the convential manner, it was clear that the farmers needed an increase in their net income per acre. The farm income per unit of cultivation was higher in lower size groups, because of more intensive use of land. But the specific measures for effecting improvement could not be concluded from the table.

Hence, measures of coordinating factors of success with available means of resources were considered in detail. The adoption of the farms to physical and economic conditions, reclamation of usar land, selection of enterprise, labour efficiency, marketing practices and the like were discussed. But the financial and other considerations, alongwith the period of time involved for increasing farm returns in a short period did not permit us to think in that direction. Increasing crop yields with scientific methods and educating farmers were considered to be the cheapest and safest means for achieving quick success.

Factors of Success

A detailed study of the yields obtained in the village per acre gave some startling information. The village had ample facilities of irrigation from two canals passing its border and yet the yield of paddy was 14.5 maunds and that of pea 7 mds. per acre. A clue was obtained for effecting permanent improvement in the farm business. Demonstration for sowing improved types of paddy and pea were arranged. The results of the yields harvested were a wonder to the farmers.

There was an increase, on an average, of 3 maunds of paddy and 8 maunds of pea per acre with practically the same amount of capital and labour. The quality of paddy T9 and Pea T163 was far superior to desi varities. The financial gain amounted to Rs. 176/- per acre. The possibilities of further improvements were explored. In subsequent years, some improved rotation of crops adocated by the Department of Agriculture were introduced. The farmers, convinced of the aims and educative value of our extension service, have now adopted scientific methods of agriculture. They use fertilizers, improved implements, better seeds and the like for raising the productivity of their land. The village is now bristling with life under the National Extension Service Block under the administrative control of the Principal.

Conclusion

The agricultural practices and experiences of the farmers are based on the experience of their forefathers from the unknown past. They have a sound knowledge of agriculture as an art. But the scientific method of crop and livestock production is of recent origin. It started in the beginning of the 20th century when research stations and experimental farms were established in different parts of the country. The application of scientific findings to farmers' fields was intensified after 1952 when National Extension Service came into existence.

The basis of agricultural improvement should be an individual farm as each farm has its own problems. From the individual farms, the development programme should expand to groups of farms. The approach should be scientific and must fit itself to the common farm practices, experiences of the farmers and their resources. Any other approach would prove prohibitive in case it does not fit within the limits of the owner's available resources. The extension worker must be thoroughly acquainted with the farming system followed in any locality so that he may easily locate the weakest points and effect proper correction.

The example of the agricultural college, Kanpur, through its extension service, may be followed by other institutions where agriculture is taught either as a compulsory or as optional subject. The staff and students of the Agriculture college, Kanpur, stay and work with farmers for one week twice a year along with the permanent N.E.S. Block Staff and demonstrate improved agricultural practices as well as show ways of curtailing losses due to rodents, insect pests, fungi, soil erosion, etc. The institution, through its extension activities, has become part and parcel of the rural development activities as well.

ECONOMICS OF POTATO CULTIVATION

By : **B. T. KHADILKAR**

THERE is no second to the fact that, the democratic crop of Potato (Solanum tuberosum) has got great potentialities, nutritive values, widest adaptability to diverse climatic conditions and quick response to increased doses of manures compared to other crops. It is therefore quite essential that, the area under this crop be increased in the Bombay State. The Potato is well-known both as a cash crop and an important subsidiary food crop, a rare combination indeed.

It is often said that, the economic planning done in a national crisis is easier than the one done to step up the food production of a country. As such, it is necessary that the Cultivator should know where he will stand, if he wishes to introduce Potato crop, which requires more initial expenditure than most of his other crops.

The table given shows the average expenditure and receipt per acre based on very moderate estimates. No major calamity is anticipated. The estimates are based on a well-to-do cultivators farm. As such, the hire cost of the implements, and capital cost of the engine are not considered. Maintenance charges of the Bullocks are considered. The rabi season potatoes are considered as cultivation of this season is done from seed obtained from the hills in the northern India which generally covers more area than the kharif season potatoes.

A special mention needs to be made that very good yields are obtained if cereal

crops are rotated with the Potato crop as the potato crop is heavily manured and irrigated. This aspect should be taken into consideration while introducing potato cultivation. It is undesirable to take more area under potato crop as the prices fluctuate too much depending upon the law of supply and demand. We also cannot wait longer for lucrative prices as the potatoes start rotting, if the sale is delayed.

Item of Expenditure	Units M	Units W	Units B	Amount Rs.	As.	Ps.
Preparatory tillage						
1) Iron Plowing with 4 bullocks (one)	4	0	8	20	–	–
2) Wooden Plowings (Two)	2	0	4	10	–	–
3) Harrowing (one)	½	0	2	2	8	–
4) Levelling by maind	¼	0	½	1	4	–
Material and Planting.						
5) Seed Potatoes @ Rs. 15 for 14 Mds.				210	–	–
6) Compost or F. Y. Manure 20 C. L.				100	–	–
7) Fertilizer mixture 7 Mds.				84	–	–
8) Cutting sets, planting behind-plow and manuring.	6	16	4	22	–	–
Interculturing						
9) Hand weeding and stirring (two)	0	16	0	8	–	–
10) Earthing up by Nangari (Man driven)	3	4	0	5	–	–
11) Preventive sprayiug with chemicals.	1	1	0	8	–	–
				(including chemicals)		
12) Irrigation by Engine (including Oil)				100	–	–
13) Harvesting (3 times)	3	10	4	16	–	–
Temporary storage						
14) Dry grass 150 bundles.				3	–	–
15) Chemical used in storage				2	–	–
Disposal						
16) Sorting	0	8	0	4	–	–
17) 50 gunny bags and coir string				50	–	–
18) Filling and sticking	4	0	0	4	–	–
19) Loading	2	0	0	2	–	–
Market						
20) Municipal octroi @ As. 2 per maund				15	–	–
21) Unloading				2	–	–
22) Commission of Dalal				48	–	–
23) Transport				50	–	–
Total expenditure				766	12	–

Income per acre :—

Gradation of Tubers	Quantity Mds	Srs.	Rate Rs.	Amount Rs.	As.	Ps.
(1) Table (Big)	80	–	10	800	–	–
(2) Medium	25	–	7	175	–	–
(3) Chats (very small)	12	20	4	50	–	–
(4) Damaged while harvesting	2	–	2	4	–	–
(5) Rotted	0	20	(feed to cattle)			
Total	120	0				

	Rs.	As.	Ps.
Total income	1029	–	–
Total expenditure	0766	12	–
Net profit per acre	0262	4	–

Rate of Bullock :-Rs. 2/-
Rate of Man :-Re. 1/-
Rate of woman :-As. 8

The profit will be more if the land owner has labour on yearly basis. Shrewd knowledge of marketing will also increase the profit. If Dalal could be avoided, so far so good.

CONTROL OF PORCUPINES AND FIELD AND GODOWN RATS

By: **S. P. JAIN**

NON-INSECT animal pests are a potential source of damage to agricultural crops in the field, as well as in storage. If the estimate of 10% damage to crops on account of insects is liberal then at least 5% additional damage may be attributed to non-insect animal pests. This loss can be prevented by adopting suitable control measures if carried out promptly and properly. Some of the practical methods are, therefore, given here for the guidance of cultivators and others interested to save their food grains.

A. Control of porcupines and field rats by fumigation of holes and burrows.

B. By poison baiting.

C. By trapping.

A. *Fumigation method* :—This is done by fumigating the holes by means of Calcium Cyanids powder. The powder is available in the market as "Cymag" or "Cyanogas A" which is introduced into the burrows by means of foot-pump or through a tin funnel attached to a tube. Fumigating burrows by this method is generally practiced in soils which are compact in structure and which do not allow the gas to escape to the atmosphere. The inhabited burrows are given a dose of CaCN powder at the rate of about 1/8 ch. per burrow. After blowing in the powder, the burrows should be thoroughly covered with earth. All the outlets of the burrows should be covered before carrying out the fumigation operation.

Precautions :—Both cyanogas and cymag are deadly poisons and hence the powder must not be allowed to spill on the clothes or ground. The operator should wash his hands thoroughly with soap and water after completing the operation. It should be carried out in day-time when the rats or porcupines are resting in their burrows. It should never be used in the runs in and around dwellings.

B. *Poison baiting* :—This is done by mixing the poison with a suitable carrier such as wheat, maize, barley and gram (grain or flour) which are acceptable to the rats. The following rodenticides are commonly used:—

1. Barium Carbonate.
2. Zinc Phosphide
3. Dathmor containing 5% warfarin
4. Strychnine Hydrochloride

Method of preparation

1. *Barium Carbonate baits* :—

Barium Carbonate 20% or	5 seers.
Grain (Gram Dal)	30 seers.
Gur	2 seers.

The crushed grain is first soaked in water and then mixed with gur and poison.

The baits with Barium Carbonate are moist baits and should be freshly prepared before use.

2. *Zinc Phosphide baits* :—

Zinc phosphide 1.5% to 2.5% i. e. 1½ to 2½ seers.

Grain 20 seers.

Vegetable oil small quantity.

This is a dry bait. A very small quantity of mustard or any other vegetable oil is mixed with crushed grain before mixing the poison in it. It is necessary to allow the particles of the poison to adhere to the grains.

3. *Dathmor or Warfarin baits* :—

Warfarin 025% 1 part

Gram 19 parts.

The method of preparation is the same as that of zinc phosphide baits. Its action is slow and painless till the time of death.

Use of poison baits in the fields :—All the burrows in the field should be closed with earth in the evening prior to baiting. The holes found open next morning indicate the inhabited burrows. The poisoned baits should be placed at the mouth of each opened burrow at the rate of 1/4 chhatank per burrow. It is better to change the poison and the bait in order o attract more rats to the new baits.

The effect of the baiting should be observed for sometime and the process should be repeated to obtain satisfactory control.

4. *Strychnine baits* :-

Strychnine	.01%i. e. 1 oz.
Grain	22 seers.
Gur	2½ seers.

The crushed grain after it is soaked in water should be thoroughly mixed with a mixture of gur solution and strychnine added in the said ration.

Strychnine is produced from the seeds of plants like nux vomica. As it is an indigenous product the use of strychnine is recommended.

It causes arresting of respiration which ultimately results in death. Care should exercised in its handling. The poison has rapid and serious effect both on domestic animals and human beings. Its antitode is a strong mixture of mustard and water or a strong salt solution to induce vomiting so as to get rid of the poison. This should be followed by strong tea in case of human beings. The remedy must be quickly administered.

Use of poison baits in the godown :-Rats by instinct are clever and hence often require to be educated to eat the baits. For this purpose it is good to put only the unpoisoned baits for first two or three evenings and then to follow up with the poisoned baits.

Precautions for the use of poisoned baits: The baits should not be prepared by naked hand and gloves should be used as far as possible. In case gloves are not available, hands and particularly nails should be thoroughly cleaned and washed with soap.

The baits should never be kept in the godown or house in open plates as it is sometimes devovoured by children causing death. For this purpose, it is strongly recommended that a closed wooden box of cheap wood having two holes on opposite sides should be used and the poison baits put inside the box so that no body can touch or accidentally use such baits. During day time the box should be kept under lock. Similarly, the baits kept in the field should be collected early in the morning so as to prevent danger to poultry and farm animals etc.

In case of accidental poisoning, call the doctor at once. Until he arrives, give the patient a laxative or get the vomiting done by giving one tea-spoon full of salt added to a tumbler of warm water, and tea later on. In case of domestic animals give mustard oil after saline water.

C. *Trappinq* :—There are several types which are available in the market and used mostly in houses. This alone, however, may not serve for long because porcupines and rats are too clever to walk into the known traps.

SCOPE FOR REORCANISATION OF COOPERATIVE CREDIT IN THE NAGARJUNASAGAR PROJECT AREA.

By: **I. V. PARTHASARATHY.**

Introduction

OF the various important economic factors of land development in the new river valley projects, the formation of capital and availability of credit for various purposes connected with land development, stand foremost. The development of river valley areas due to the advent of irrigation facilities has not made satisfactory progress in project areas. In the Tungabhadra Project area, only an extent of 4221 acres was irrigated, though it was targetted to bring 50,000 acres under irrigation in 1955-56 and inspite of 1.5 lakh acres having been localised. Besides abnormal rainfall received during that year, and ignorance of ryots of the methods of wet cultivation the major impediment in switching over to wet cultivation was the lack of adequate financial resources. Large sums of money are being invested on ad hoc policies and arrangements for the development of the tracts. All efforts should be canalised, and lands and tillers prepared for the changover. Another mighty project is underway in Andhra State and a fuller appraisal of the need for Credit and the reorganisation of the existing agencies is needed to sponsor the integrated credit scheme of the Reserve Bank of India's Rural Credit Survey, the report of which has come out quite handy. The Nagarjunasagar Project area offers a rich field for the introduction of the reorganised scheme of rural credit. There is great scope for such schemes to be initiated simultaneously with the execution of the project.

An outline of the potentialities of the project, together with the credit needs of the area for land development and crop management and the role of the existing cooperatives as well as the plans of the State Co-operative Department is attempted in the following paragraphs.

The Nagarjuna Sagar Project

The Nagarjunasagar Project is a joint venture of the Government of Andhra and Hyderabad, for harnessing the river Krishna, at a magnificent spot near Nandikonda village in the Mirialguda taluk of Nalgonda district of Hyderabad and 13 miles away from Macherla in Guntur District of Andhra and supplying water for irrigation to extensive areas which are at present arid. This major project costing Rs. 122 crores will take nine years to be completed, but in view of the keen demand for water for irrigation, full development of the ayacut is expected in seven years, after completion. The Right Bank Canal with the capacity of 21,000 cusecs takes off through two tunnels of 32' diameter, traversing on Contour along the Western borders of Guntur and Nellore districts for a length of 276 miles and falls into the river Pennar. Areas in Palnad, Vinukonda, Narasaraopet, Ongole, Sattenapalle and Guntur taluks of Guntur District, Markapur in Kurnool District and Darsi, Podili and Kavali, Kandukar, Udayagiri and Atmakur in Nellore district are under the command of the canal and get benefitted. The Left Bank Canal takes off from a head sluice through two tunnels carrying 11,000 cusecs and is 140 miles long and irrigates areas in Nalgonda and Warangal districts of Hyderabad, and Nandigama, Tiruvur, Nuzvid and Gannavaram taluks of Krishna district.

14.71 lakhs of acres with an ayacut 1/3 wet and 2/3 dry are expected to be benefitted by the Right Bank Canal and tempora-

rily benefit 2 lakhs of Pulichintala ayacut as well as 1.1 lakhs and 78 lakhs under Kavali and Kanupur canals while the Left Bank canal irrigates 6.75 lakhs of first crop and 1.20 lakhs in second crop in Hyderabad State and 4.24 lakhs in Krishna District. Thus the full scheme benefits 18.59 lakhs in Guntur, Kurnool and Nellore districts 1.5 lakhs in Hyderabad State and 4.24 lakhs in Krishna district, besides stabilising 10.5 lakhs of the Delta ayacut. In total 3.403 million acres will reap the benefits producing 1.3 million tons of food grains and 75,000 K. W. of firm power.

The project affected lands belong to the dry arid zone where the soils are good but failure of crops occurs owing to the lack of timely water (rains). The crops grown are Jonna, Korra, and Sajja as food crops and chillies, cotton, groundnut, tobacco (virginia and country) of the commercial group. Besides, it has been noticed that there are larger extents of cultivable porambokes, assessed and unassessed wastes, to the tune of 3.64 lakhs whose value may be taken as Rs. 200 per acre. Betterment levy is also proposed to be levied for the lands at Rs. 200/- per acre from dry to wet cultivation and Rs. 100/- from dry to irrigated dry, spread over a period of 20 years, with an interest of six percent. Water rates will be levied in different grades, in 5 years at Rs. 15/- per acre of wet land, Rs. 10/- per acre of dry land and 6-4-0 per second crop, perennial wet being charged at Rs. 24/-.

"The indirect benefits accruing are varied and numerous. Additional revenue would be available by way of sales tax at 6 pies per rupee on the sale value of produce at Rs. 250/- a ton, postal revenue at 8 as per acre, conveyance and vehicle tax at Re. 1/- per acre, to an amount of 184 lakhs a year."

The Guntur Co-operative Circle :—

In Guntur District, where this study was made the R. B. Canal irrigates the following areas.

TALUKS.	N. S. P. RIGHT BANK CANAL DRY.	N. S. P. RIGHT BANK CANAL WET.	PULICHINTALA R. B. CANAL. DRY.	PULICHINTALA R. B. CANAL. WET.	TOTAL
	(In thousands).				
	Acres	Acres.	Acres.	Acres.	Acres
1. Palnad.	1.58	.79	–	–	2.37
2. Sattenapalle	1.54	.77	.63	.31	3.25
3. Narasaraopet.	1.82	.91	.49	.24	3.46
4. Vinukonda.	1.46	.73	–	–	2.19
5. Guntur.	–	–	1.57	.78	2.35
TOTAL: Dry 9.09-Wet. 4.53					13.62

Excluding the taluks of Ongole, Tenali, and Bapatla, it can be safely estimated that 13.6 lakhs of acres are to be benefitted by the project, in the dry taluks of Palnad, Sattenapalle, Narosaraopet, Vinukonda, and Guntur which form a separate circle in Guntur District under a Deputy Registrar of Co-operative societies. An attempt has been made in these following lines to evaluate the role of the co-operatives in the existing set up, their inadequacy in dispensing rural credit, the magnitude of the task ahead of them in the future set up, and to outline the need to reorganise the

co-operatives, to effectively discharge their obligations. The working of the different co-operative societies in the circle with their progress is summarised in the form below :

No.	Type of the Co-operative Society.	No. Of Societies in 1950-51	1951-52	1952-53	1953-54
1.	Central Bank.	—	—	—	—
2.	Central Non-credit Societies	2	2	1	1
3.	Agricultural Credit Societies :				
	(a) Full-fledged multipurpose Co-operative Societies.				
	(b) Other Co-operative Societies :	258	261	301	303
4.	Non-Agricultural Credit Societies :	22	23	24	25
5.	Agricultural Non-credit Co-operative Societies :	145	163	157	155
6.	Non-Agricultural Non-Credit Co-operative Societies :	66	90	92	92
7.	Co-operative Land Mortgage Banks :	2	2	2	2
8.	Local Co-operative Unions :	4	4	4	4

It is seen that the rural co-operatives could cater to the needs of local population to an extent of 10.7% of the villages only in 1953-54 though they cover 74.2% of the villages in the area as against the All-India percentage of 3.1 and 6.3% in Andhra. The working of the rural credit societies and Land Mortgage Banks in the area, can be seen from the following statement.

WORKING AND PROGRESS OF LAND MORTGAGE BANKS AND RURAL CO-OPERATIVE SOCIETIES IN GUNTUR CIRCLE.

PARTICULARS.	L. M. B.'S. 1950-51	1951-52	1952-53	1953-54	Rural Co-operative Societies. 1950-51	1951-52	1952-53	1953-54
1. Number of societies :	2	2	2	2	255	261	337	303
2. Membership :	903	950	1102	1243	14734	19195	20991	20434
3. Share Capital : (in rupees)	17527	20202	25963	32829	253993	331651	960518	343821
4. Reserve Fund : (in rupees)	1980	1980	1980	1983	65876	73001	80503	82682
5. Borrowings : Rs.	160253	190618	265527	399980	1556387	2242686	2241923	2068628
6. Depostis : Rs.	236	—	—	1405	3917	3899	4308	2733
7. Loans issued : Rs.			94796	159683			845128	1083023
8. No. of villages								
(i) in the circle :	524	524	524	524				
(ii) Served by Co-operative Societies :	300	299	392	389				
9. Population served :		83130	104955	102170				
10. Percentage served								
(i) villages :	56	59.1	72.2	74.2				
(ii) Population :	6.02	9.0	8.0	10.7				

Besides, there are 5 marketing societies which have issued loans and advances totalling a lakh and marketing 3 lakhs worth of produce. The only land colonisation society at Pidugurala for ex-servicemen has reclaimed 452 acres and produced crops valued at Rs. 9,955/-. Three cattle-breeding societies and 5 labour contract societies are also functioning in the area. The 17 consumers' stores in the area are reported to be not functioning properly.

It is obvious that these societies will not be able to cope up with increased demand for capital and credit due to the advent of irrigation facilities. The enormous increased credit needs of the Agriculturists of this area are presnted below:

Credit needs of Agriculturists in the Project areas

Much capital outlay is necessary in converting the existing dry areas to wet. The clearance of the jungle, if any, standing trees or shrubs, terracing, levelling and bunding to the extent required, the excavation of field channels, the provision of subsoil and surface drainage etc. are all the preliminary items over which an initial outlay at Rs. 250/- per acre in the case of conversion from dry to wet and at Rs. 150/- per acre if converted from dry to irrigated dry will be necessary. Besides, provision of adequate cattle labour and purchase of necessary implements will require a further amount. There is also the increased expenditure of cultivation expeneses by way of seeds, manures and engagement of more labour. Added to these, we have the betterment levy proposed to be imposed at Rs. 200/- and Rs. 100/- for wet conversion and irrigated dry change over respectively. The ryots have further to pay the water rates at Rs. 15/- and Rs. 10/- respectively per acre. Thus the total capital requirements of the ryots of the locality is summarised in the table below. It must be noted that the ryots of the locality do not realise enough returns from the dry land crops and are forced to borrow mostly even for their normal domestic and agriculturel expenses. The plight of the marginal and submarginal farmers can be imagined when they are to switch over from dry to irrigated crops. Unless adequate provisions are available, it may not be possible for the fuller development of the ayacut as per programme and it is certain that the failures of the present project areas are likely to be repeated.

ESTIMATED EXPENDITURE ON THE CONVERSION FROM, DRY TO WET CULTIVATION.

S. No. Particulars.	OUTLAY WET TO IRRIGATED	DRY TO WET	TOTAL
	Rs.	Rs.	Rs.
1. Conversion from dry to wet at Rs. 200/- (9.09 lakhs) & from wet to irrigated at Rs. 150/- (4.53 lakhs) per acre.	22.5 Lakhs.	1800 Lakhs.	1822.5 Lakhs.
2. Increased cost of cultivation.			967.5 Lakhs
3. Betterment levy at Rs. 200/- (4.5 Lakhs) and Rs. 100/- (9.09)	900 ,,	900 ,,	1800
4. Water rates at Rs. 15/- and Rs. 10/-	67.5 ,,	90 ,,	157.5 ,,
TOTAL:—			4747.5 ,,

I.A. ESTIMATED TOTAL COST OF CULTIVATION UNDER PRESENT CROP AREAS.

No.	Name of the crop :	Total area in acres.	Cost of cultivation per acre : Rs.	Total Cost : Rs.	Return Per acre : Rs.	Total returns Rs.
1.	Johna	3.92 thousands	50	186 lakhs	100	392 lakhs
2.	Sajja	128 ,,	40	51.2 ,,	40	51.2 ,,
3.	Variga	187 ,,	40	74.8 ,,	100	187 ,,
4.	Korra	46 ,,	40	18.4 ,,	60	27.6 ,,
5.	Groundnut.	1,00 ,,	80	80 ,,	150	150
6.	Chillies	60 ,,	150	90 ,,	300	180 ,,
7.	Cotton	26 ,,	30	7.8 ,,	75	19.5 ,,
8.	Tobacco (Natu)	72 ,,	250	180 ,,	500	360 ,,
9.	-do- (Virginia)	69 ,,	300	197 ,,	600	414 ,,
10.	Paddy.	63 ,,	150	94.5 ,,	200	126 ,,
11.	Other crops.	157 ,,	40	62.8 ,,	50	78.5 ,,
	Total :	1300 ,,		1042.5 ,,		1985.9 ,,

I. B. ESTIMATED TOTAL COST OF CULTIVATION UNDER PROPOSED CROP AREAS.

No.	Name of crop :	Area in acres :	Cost of cultivation per acre :	Total Cost :	Return per acre :	Total returns :
1.	Paddy	4 lakhs	Rs. 150	Rs. 600 lakhs	200	Rs. 800 lakhs
2.	Jonna	1 ,,	70	280 ,,	140	560 ,,
3.	Cotton.	1 ,,	80	80 ,,	450	450 ,,
4.	Groundnut	1 ,,	100	100 ,,	300	300 ,,
5.	Chillies	1 ,,	150	150 ,,	600	600 ,,
6.	Tobacco (Natu)	1 ,,	300	300 ,,	1000	1000 ,,
7.	Other crops (Sugarcane turmeric plantains etc.)	1 ,,	500	500 ,,	1000	1000 ,,
	Total :	13 ,,		2010 ,,		4710 lakhs

Therefore, increased cost of cultivation (2010-1042.5) = Rs. 967.5 lakhs

-Do- returns. (4710-1985.8) = Rs. 2724.2 ,,

The total area benefitted in the region under study is 13.6 lakhs and the total outlay on the conversion and switch over is 4747 lakhs. Giving an allowance for the increased returns (which will accrue only after the entire outlay is made for conversion, and the ayacut fully developed) to the tune of 2724.2 lakhs, a further sum of 2020 lakhs is certainly needed. It is in this context, the tempo of the work of the co-operatives is to be viewed and speeded up. The existing agencies of the co-operatives could cater only about 15 lakhs and their work and transactions should be increased more

than 100 times if the entire field of rural credit of the area is to be to catered by the co-operatives. But suffice it, if they are able to cater at least 50% of the amount needed, leaving the rest to the other agencies.

Schemes of the co-operative Department in the Area :—

The co-operative department is endeavouring to start 3 rural banks in a few big villages and semi-urban areas as per the stipulations of the Reserve Bank of India's credit survey, with a guaranteed liability, dispensing short and medium term credit, on personal and mortgage securities, (loans on the pledge of agricultural produce, gold, jewels, and approved surities) cash credit loans to avoid delay and with a large membership to mobilise an adequte share capital, with a wider area of operation for an effective mobilization of thrift and savings of the members and to provide godowns and buildings, the societies being managed by a paid staff. So far only in in one centre, definite steps have been taken to start a rural bank where the collection of share capital is being proceeded with.

The Government further proposed to reorganise the marketing societies with a view to promote efficient marketing of farm produce, providing godown facilities and marketing finance. The District Co-operative Wholesale stores is being converted into a District Co-operative Marketing Society to expand marketing activities in the district. The Government have further proposed to start a dozen pilot schemes in each district, to push through the integrated and reorganised rural credit scheme. Apart from these measures, it is quite essential that work in other lines is also initiated simultaneously so as to enable the full swing to be realised as soon as the irrigation facilities are available. What is emphasised is, instead of waiting for the project to be completed and start seven years hence and wait for enough time for the co-operatives to grow, it is better that the schemes started now itself so that benefits may be made available to synchronize with the availability of water.

Suggestions for further Improvement

At present, there is no central Bank in the circle. It is time enough, that efforts are made to start another central bank to be the financing institution and to affiliate these co-operatives in the circle. The Guntur District Co-operative Central Bank at Tenali, may not efficiently cope-up with the increased credit needs. There are instances of two or three co-operative Central banks in a single district. Starting three more land mortgage banks, is all the more essential. The two land mortgage banks at Guntur and Narasaraopet are too remote to be accessible to the villagers in other taluks. A land mortgage bank for each taluk will render long term credit being disbursed effectively. Most of the marketing societies are content with lending money on the pledge of produce rather than marketing the produce. Every effort should be made in the reorganised scheme of marketing societies to do better marketing, provide godown facilities and thus reduce the marketing charges and increase the returns to the producer, besides encouraging processing activities.

Recently a portion of the area under study has been brought under the purview of the National Extension Scheme known as the Macherla Block. In the National Extension Scheme, public spirited men will be available and as such the success of the re-organisation of co-operatives will be obvious. The National Extension Scheme workers can tap sufficient deposits and mobilize local talent and look to the proper working of the scheme.

Conclusion :

As it has been outlined, the Nagarjuna-Sagar Project offers a rich field for the reorganised rural credit scheme to be

introduced. An assessment has been made regarding the credit requirements, with a sketch of the role which the co-operatives already existing, are playing. The schemes in the offing of the State Co-operative Department have also been outlined together with the suggestions for further improvements. The various drawbacks of the existing co-operatives as outlined in the Credit Survey, can be rectified and the movement rejuvenated to synchronize with the enthusiasm of the local population and take advantage of the prosperity ahead. A note of warning is also struck in that the experiences of the other projects should not be repeated, but positive policies outlined ahead and implemented, before the land and the people realise the full bloom.

FRUIT GROWING IN THE AGENCY TRACTS OF THE ANDHRA STATE SURVEY AND SUGGESTIONS

By : **M. V. RAMASOMAYAZULU**

THE Agency Tracts of the Andhra State extend over an area of 6,540 square miles. A wide range of soils is met with including red loams, alluvial soils and black clays. Most of the cultivable wastes and marginal lands adjoining water sources of Araku Valley, Anantagiri, Nugur and Bhadrachalam taluks consist of reasonably deep and well drained soils varying from a friable sandy loam to red loam with uniform texture. These soils are eminently suited for growing a variety of fruit such as mandarin, lemon, pummelo, citron, grapefruit, sweet orange, pomegranate, Phyllanthus, wood apple, guava, grape, passion fruit, papaya, tree tomato, litchi and the like. Round about Anantagiri, (3,500 feet above mean sea level) in Visakhapatnam district, stray trees of common pear, pummelo, rose apple and coffee bushes are successfully found growing. Acid lime trees exist in the interior areas.

Topography, Soils and Rainfall :

Most of the Agency tracts are characterised by a rolling topography. Tracts with elevation of about 4,000 feet above sea level are not uncommon, in the Visakhapatnam Agency. There is a rainfall of 60 to 70 inches received in the Upper Agency areas of Gudem, Srungavarpukota and Salur taluks situated on elevations of over 2,500 feet and 35 to 40 inches received in the lower Agency areas of Nagur, Bhadrachalam, Polavaram and lower reaches of Rampachodavaram (East Godavari district). The maximum and minimum temperatures range from about 36°F in winter to about 100°F in summer in Araku Valley. The aspect and topography of land differes from village to village. Perennial hill streams and springs, here and there, can be harnessed to provide irrigation water. Some of the Agency tracts of Visakhapatnam district are susceptible to frost hazard during winter.

Work Done in Araku Valley :

Among Citrus varieties, the following observations were recorded.

(i) Budded plants of Nagpur santra on Jamberi rootstock were observed to be more vigorous than the budded plants of Kallar type on the same rootstock.

(ii) Budded plants of Sathgudi, Malta Ruby, Valencia Late, Teneriffe, Washington Navel and Buckeye Navel planted in 1947 gave their first harvest of fruits in 1950. Sathgudi trees on Jamberi were observed

to be more vigorous closely followed by the trees of Washington Navel and Malta Ruby on the same rootstock.

(iii) Budded plants of grapefruit Poona, Duncan and Special came to bearing in about four years time, though the growth in these trees during the pre-bearing period was slow. The fruits were in season from August to January, the peak harvests coming off in November–December. Susceptibility to cankar was a noticeable feature especially during the humid months.

(iv) Layered and Budded plants of lemon Nepali Oblong, Lucknow Seedless, Lisbon and Rajahmundry introduced in 1947 were very promising. Trees of Nepali Oblong and Lucknow Seedless were observed to be in bearing even when they were about an year old. The performance of Villa Franca and Eureka was not satisfactory. The five year old trees of Nepali Oblong led the rest both in yield and fruit size. Variety Lisbon was observed to be more susceptible to canker disease than others.

(v) Budded plants of the Kodur type of acid lime came to bearing in about four years time. The growth in all the trees in the first two years of orchard life was slow. It has been observed that 80% of the year's crop was harvested from September to December, 12% from January to April and 8% from May to August.

(vi) Citron trees of Bengal commenced bearing in two years time.

The yields obtained with different varieties are indicated in the following table.

TABLE I: Individual tree yields (mean) under Citrus at the Govt. Fruit Gardens, Araku Valley.

S. No.	Kind and Variety	Year of planting	Individual tree yields (mean)	Remarks
1.	**Mandarin :—**			
	(i) Nagpur santra	1948	34	Budded on
	(ii) Kallar type	1948	33	Jamberi seedlings
2.	**Sweet orange :—**			
	(i) Sathgudi	1947	84	
	(ii) Buckeye Navel	,,	78	do
	(iii) Washington Navel	,,	68	
	(iv) Malta Ruby	,,	63	
	(v) Valencia Late	,,	47	
	(vi) Teneriffe	,,	27	
3.	**Grapefruit :—**			
	(i) Special	,,	47	
	(ii) Duncan	,,	42	
	(iii) Poona	,,	38	
4.	**Pummelo :—**			
	Kodur	,,	31	
5.	**Lemon :—**			
	(i) Nepali Oblong	,,	496	On the average
	(ii) Lucknow Seedless	,,	427	four fruits
	(iii) Lisbon	,,	505	weighed one pound
	(iv) Rajahmundry	1948	342	
6.	**Citron :—**			
	Bengal	1947	13	Individual fruits weighed 17 pounds

(vii) Grafts and layered plants of guava Luckonw No. 49 gave their first harvests 34 months after planting. The season of maximum harvests is from August to November. The mansoon crop recorded the highest mean tree yield of 506 fruits for the five year old trees which were in the third year of cropping and the highest mean tree yield of 312 fruits for the four year old trees which were in the second year of bearing. Among the five year old trees, the highest individual tree yield was 665 fruits and among the four year old trees, the highest individual tree yield was 358 fruits.

(viii) Among grapes, vines of Red Muscadel led the rest in the yield of berries. Berries of Lukfata grape were medium sized and their quality good, though the bunch formation was not quite satisfactory.

(ix) Pomegranate plants of Kabul, Michaelpatti and Velledu were more vigorous than the local type. These varieties came to bearing in about 2½ years time and their yield and quality were good.

(x) Among litchi varieties, Calcutta and Rose Scented came to bearing in about 3½ years time. A mean tree yield of 98 fruits was so far recorded while the highest individual tree yield was 210 fruits. The fruits were in season from May to June.

(xi) Seedling surinam cherry plants came to bearing in about three years time. Two seasons of harvest was noticed, one in November-December and the other in March-April. A mean plant yield of three pounds for the first crop and six pounds for the second crop was recorded during the third year of bearing.

(xii) Sixty pounds of tree tomato fruits were harvested from eighteen trees during the second year of their orchard life. The plants were vigorous and uniformly healthy throughout the period.

(xiii) Purple variety of passion fruit was very promising to the tract. Twenty-five pounds of fruits were harvested from fifty vines during their second year of planting.

(xiv) Cape gooseberry crop planted in 1948 commenced bearing in five months after planting. In 1951, an yield of 600 pounds of bush ripe fruits were gathered from a plot of five cents.

(xv) Cashew and sapota trees were highly susceptible to frost. The former had also a severe attack of gummosis during the humid weather. Growth in mangosteen, durian, cardamom, and pepper was very poor. The plants were not vigorous. Cinnamon trees are observed to be coming up vigorously while clove and nutmeg failed to thrive to the conditions obtaining in the tract.

Marketing :

(i) *Existing position* :—The total quantity of fruit marketed from the Agency Tracts of the Andhra has been estimated at Rs. 20,000/-, at the current prices. Wanting in transport facilities and markets nearer to the production places, these areas were neglected till recently. The hill fruit grower could not get any help from any source to secure the best possible price for his fruit. The common practice in ancient days, was for the hill people to bring the fruit in head loads, pack animals or "kavidis" to the "shandies" nearer to their villages and barter them for the goods (mostly salt and kerosene) and services required by them. Aerial ropeways also exist in certain hill areas. The shandies of Kasipatnam, Dhamku, Anantagiri and Araku in Srungavarapukota Agency, Gajapatinagaram and Manapuram in Salur Agency, Narsapatam and Konda Santha in Gudem, Madugole in Veeravilli of Visakhapatnam district, Rampa Chodavaram in East Godavari Agency, Polavaram in West Godavari Agency came into being in this manner and now important kinds of fruit such as the mandarin ("Kamala"), jack, pomegranate, pineapple

and minor class of fruits as the tamarind and Indian gooseberry along with other horticultural produce such as coffee and "pippali" (**Piper longum**) are assembled and traded through shandies. The middlemen and commission agents from Dharmavaram and Anakapalle of Visakhapatnam district and Rajahmundry for East and West Godavari Agency areas regularly visit these assembling centres, purchase the fruit and transmit them to the wholesalers in the towns nearby. Very often they extend credit facilities on the pledge of the produce, and the rate of interest is very high. But growers go often to them because either the indigenous bankers ("sundis") or the middlemen or commission agents are helpful to them in times of crisis. They have also an intimate knowledge of their clients.

(ii) **Suggestion for improvement** :—A pre-requisite for successful and efficient marketing of fruit from these areas is the provision of cheap transport. There are no storage facilities in the shandies. Soon after the commission agents or middlemen purchase the fruit from the growers, it is transported by lorries or double bullock carts to the nearest consuming centres without any delay. Marketing surveys reveal that ordinarily 7 to 27% of the consumers' price in the composite State of Madras is due to transport costs. Though a substantial volume of trade in fruit passes through these weekly shandies and annual fairs in Hills, "there is little or no control exercised by authority on the transactions or the trade practices." Suggestions are put forth by some reputed economists and administrators for improvement of this kind of rural marketing by controlling these shandies in the Agencies where they are found in large numbers. The collection and study of exact information on marketing, which is badly wanting in these tracts, "must necessarily precede the formulation of an effective policy for the improvement of marketing." The State Department of Agriculture should begin a study of the market conditions in these areas.

Grading fruit, builds up confidence regarding quality in the maket resulting in better market intelligence and better prices for the grower ranging from 5 to 10% over the .market price. Grade specifications should be drawn up for each kind of fruit. Grading stabilizes trade and fetches a better price to the grower.

The marketing of fruit on co-operative lines is always advantageous to the grower. The controlled credit system sponsored by the co-operative marketing gets growers out of the clutches of indigenous money-lenders (sundis) and middlemen. If the co-operative marketing of Agency fruits is to be effective, it is necessary to have a plan by which all these tracts are covered by a net-work of co-operative transport services, ware houses and market organizations. To this end in view, the Vizagapatam Ex-servicemen's Transport Services exisiting in that district can help for the furtherance of these important tracts of the this State. In the districts of East and West Godavari, a similar transport society can be started as in the district of Visakhapatnam of this State.

Potentialities for Extension Work:

Rampachodavaram agency extending over an area of 700 square miles with fertile Valleys, perennial hill stream and hill-foot seepages, surrounded by hills acting as shelter belts afford ideal sites for mandarin and pineapple plantations. Anatagiri, Araku, Sujanakota agencies can be utilized for raising rose apple, mandarin, guava, lemon, pomegranate, jack and tamarind plantations in compact blocks on a large scale. Tracts susceptible to frost hazard such as Araku Valley should not grow cashew or sapota. Orchards for lemon production can be located near sources of assured water supply. Sweet orange, grapefruit, grape, litchi, Cape gooseberry,

passion fruit, guava and pomegranate which are found promising in Araku Valley can be extended to other Agency tracts of Sujanakota, Paderu, Anantagiri, Salur and Cudem, which more or less enjoy similar conditions. Back-yards and young orchards can be inter-cropped with bush fruits such as Cape gooseberry. Raspberry, strawberry and passion fruit can also be safely extended in suitable vacant sites and back-yards of hill villages of these regions. Banana varieties such as Sirumalai and Amritapani can be extended to villages which are situated near the perennial hill streams.

A Hill Fruit Research Station at Anantagiri in Visakhapatnam district should be established to fix up suitable fruit, spice and beverage crops for this area. State should assist growers in providing easy credit facilities, production requisites, assured markets and transpot to attract the enthusiasm of the hillmen for the furtherence of these Agency areas which are not yet fully exploited to harness their resources. A Demonstration-cum-Emploratory Fruit Station at Rampachodavaram in East Godavari Agency to demonstrate the suitability of mandarin orange to these areas would help in bringing large areas under this as plantations. This station could also help the development of the pineapple industry in these regions.

Summary of Suggestions.

(i) The importance of the Agency areas of the Andhra State for horticultural expansion is discussed.

(ii) The work done by the Agricultural Department through a survey of these tracts and the investigations carried on the selection of sites, aspect of manuring, choice of the variety and the importance of irrigation, and harnessing hill streams, are detailed.

(iii) The contribution of the Department for the horticultural prosperity of Araku Valley through a planned expansion of the area with fruit plants so far supplied, is brought out.

(iv) A solution to the marketing problems of these areas has been suggested.

POULTRY-FARMING IN ISRAEL

By : **O. P. DAHAMA**

Enterprise and production :

In Israel nearly every farmer keeps hens. In *Moshavim** the individual farmer keeps upto 700 or 800 laying hens while in collective settlements called as Kibbutzim or *Moshavim Shitifm*** the number of laying hens may go as high as 15000 or even more. On small farms, where the settlers are new the number may be about 50, or more Near about the year of 1921 several breeds were imported but others except the white-leg-horn could not stand the climate and so more white-leg-horns were imported and multiplied. As the population of the country is a lover of meat and they do not have more beef, so the main object uptil now has been egg supply and chickens. The poultrymen have also started producing boilers from two years ago. At present poultry farming is a prominent source of

* (Singular Moshav), Smallholders' Settlement in Israel.

** Those settlements where production is Collective like Kibbutzim and consumption is individual ike Moshavim.

income to the farmers of the country. In 1955 the position was as follows :—

Number of layers 3.3 millions

geese, ducks, and Turkey numbered about $\frac{1}{4}$ million.

Annual egg production 480 millions i. e. per capita of population 270 eggs per year.

Poultry meat production including boilers amounted to 15000 tons or approximately 9 K. gms. per capita of population per year. Incubation capacity reached a total of 3 million eggs. Most of the incubators are worked by electricity and vary in capacity 3000 to 3200 eggs.

In the past, about three years back, the country was very much short of feeding grains for the poultry and most of it was imported, for which they were short of exchange and so the imports were limited to a quantity and so poultry could not get the proper chance of its development.

Poultry breeds and breeding practices

As the white-leg-horn breed has proved a good layer in this country this is a common breed. For collecting the data on laying capacity and health of the breeding flocks, most of the breeding farms are held under control and records are kept there. In 1955 laying standard in the country was 150 eggs per hen housed. Pedigree farms are working towards more basic improvement of poultry. This is done by 12 farms, which at present are raising leg-horn hens. On the first random sample laying test, which ended in September 1955 average egg production was 221 eggs per hen housed, and mortality amounted to 8%. Other breeds for egg production are Sussex and Rhode-Island Reds. But they are very few. Recently for the last two years they have started imports of heavy breeds from U. S. A. such as New-Hampshire, white-rock, and Cornish. These breeds are used for crossing with leg-horn and Sussex, as their offspring excel in higher weight and their egg production is quite fair.

Management of poultry

The poultry runs are provided with concrete floor and deep litter without yards or in laying batteries or in houses of slatted floor. The front of the poultry runs turns mostly east and the rear wall turns west. The poultry houses are made of galvanised tin sheets, aluminium, tin or concrete blocks. 2/3 of the front is covered with wire and is kept open almost throughout the year. This can be closed in winter days when the weather in Israel is very rough. On hot summer days the roofs are sprinkled with water to keep the runs cool. This has been found very good for laying and maintaining the health of the hens. Lights are used for layers every morning throughout the year. Although in summer there are 14 hours of day light per day and even more but it has been experienced that lights have a remarkable effect on performance. Summer morning hours in Israel are cool and lights considerably increase appetite and food consumption, resulting in more production of eggs, and development.

Laying Cages :—It has been experienced that it is better to keep hens in cages. By these the work is made easy-layers and non-layers, are separated and so different rations can be given to both.

Feeds :—Taking 180 eggs as the average production per hen per year, 40 K. gms. of concentrated mixtures are thought the average requirement of a hen. The mixtures contain grains, fishmeal, meat-meal, milk powder, minerals, citrus peel, vitamins, etc.

Poultry Diseases

The important diseases in Israel are chicken-pox, New-Castle, respiratory diseases, cocoidiosis, intestinal worms and diseases caused by lack of vitamins. In the past this industry suffered a great deal from spirochaetosis, transmitted by mites (Argas Persicus and Dermanysus Gallinae).

However by the improvement of management, carried out through good sanitations and also through medical aid given by the Government veterinaries, losses resulting from poultry diseases have been considerably reduced. Formerly they were importing vaccines or New-Castle from India but now they are producing their own vaccines against New-castle and chicken-pox and also for some other diseases. Regarding respiratory diseases they have found out that Ova-Micine does well but it does not cure and they feel that there is no medicine against it as yet. For Cocoidiosis they import sulpher medicines from U. S. A. For intestinal worms they have some treatment but they do not use much. For lack of vitamin A and E they mix Vitamins, fish meal, meat meal and sometimes milk powder with the feed mixture as mentioned above.

Marketing of poultry Products

The products are marketed through the cooperative organizations called as TNUVA and TENNE. These two organizations handle about 90% of the products of poultry in the whole country. Poultry house equipment, feeds etc. are supplied by "Hamashbir" and "Aspaka" other cooperative organizations.

Exports:—For local demand the country is now self sufficient and so they are exporting eggs and other poultry products to European countries and cyprus. The facts that egg production per hen in Israel is very high and specially in winter, when the quantities of other exporting countries are limited and the demand in European countries is very high, are giving a favour to the industry. In 1953-54 about 2 million eggs were exported. Exports of Israel poultry industry include eggs, geese-lever, hatching eggs, chickens of high quality, breeding flocks and feathers. Feathers are exported to all over Europe. Geese-lever to France, Eggs to Italy, Switzerland, England and Cyprus, chicks to neighbouring countries.

Organization

All the poultrymen are organized into three national organizations: namely (1) Irgum Megadley Ofot (Poultrymen's Organization) (2) Hit Akhdut Sigarley Ofot (Small holders' Organization) (3) Hit Akhdut Haikarim Ofot.

Out of these the first one is the biggest and its membership constitutes about 2/3 of the Israel Poultrymen. These Organizations deal with the industry problems and also with distribution of chicks from breeding farms held under their supervision.

Training, Extension and Research work on Poultry in Israel

For training in poultry breeding the Faculty of Agriculture, of the Hebrew University at Rehovot and the Agricultural Schools arrange courses and lectures on special occasions. The schools provide the theoretical and practical training for about 6 months as practical work in the school poultry and the students have to attend the regular lectures for theory. On the new farms instruction is given by extension experts of the Settlement Department of the Jewish Agency, The Poultry Division of the Ministry of Agriculture carries out the activities like visits to the farms, giving answers of the farmers' problems in poultry, consultation service in the offices, publication of poultry news and articles, radio broadcasting, evening lectures in villages, contact with poultry traders, and suppliers. The extension workers remain 5 days a week on tour and if there is any special problem in their region, which requires extra departmental help they report to their head offices. They talk with farmers and try to solve their problems.

All the Animal Breeding Farm experiments are made in poultry nutrition and local feed stuffs are put on trial, to prove their efficiency. The Station also

maintains a section for sampling and test and conduct research for fattening the birds for meat.

Harmone Problem :—For fattening the birds for meat, they were injecting the harmone-tabulets in the necks of the hens. This tabulet was not dissolved in the body even upto 15 days and so in case of those hens which were utilized for meat before the full dissolution of the tabulates, it was liable that the consumer may have the effects of the harmones on his body. Since June 1956 it was very much felt by the consumers that they had some glandular difficulties, and were feeling impotency and so the meat consumption in the case of poultry was very much decreased during the last three months. From the last month the marketing organization "TNUVA" has made a propaganda that they sell the meat of only those birds, the neck of whom has been removed, and so there was no danger in taking the poultry meat supplied by the TNUVA. But it requires a research on this problem.

PROGRESS OF CO-OPERATIVE MOVEMENT IN INDIA

By : **M. N. NAIK**

THE Co-operative Movement in India is now about fifty (50) years old. Started with the object of granting short term loans to people of limited means the movement now embraces all aspects of economic life of its members.

The idea of Co-operation took a concrete shape for the first time in 1904 when following the report submitted by Mr. Fedrick Nicholson, a Madras civilian, the Cooperative Credit Societies Act was passed. The object of the Act was "to encourage thrift, self-help & co-operation among Agriculturists, Artisans, & Persons of limited means". The Societies were to be either rural or urban. Generally speaking, in the organisation of rural societies the principles of Reiffeison and in that of Urban Societies those of Schultz-Delitsch were followed.

As the Act of 1904 was found to be defective in respect of non-recognition of non-credit Societies, inconvinient classification of Credit Societies and formation of Central Societies, another act was passed in 1912 to provide for non-credit forms of Co-op. like Purchase, Sale, Housing etc. and central organisations. The Act helped the growth of the movement, however, the progress was slow during the first 15 years. Under the reforms of 1919 Co-operation became a Provincial primary subject and the movement took rapid strides. The provinces passed their own Acts.

During the great economic depression of 1929-35 the Co-op. movement received a serious set-back. The world war II and the post war years have considerably quickened the progress of the movement in all directions. The Co-operative Planning Committee 1947 also stressed the need for reforming & reorganising the Primary Credit Societies, Multi-purpose Societies & recommended that efforts should be made to bring 50% of the Villages & 30% of the rural people in the orbit of reorganised societies within the period of 10 years. In 1951 the Reserve Bank's "Committee of Direction" exhaustively surveyed the rural structure of the country and its report was published in December 1954.

The following table shows the growth of the movement since 1906-1907.

Year.	No. of Socys., (in 000)	No of Members in Pri. Socy., (in lakh)	Rs. (in Crs.)
1.	2.	3.	4.
1906-10	1.93	1.62	0.68
1911-15	11.79	5.49	5.98
1916-20	28.48	11.29	15.18
1921-25	57.71	21.55	36.36
1926-30	93.74	36.89	74.89
1931-35	105.71	43.22	94.61
1936-40	116.96	50.77	104 68
1941-45	149.88	72.18	124.35
1946-50	159.19	107.32	188.73
1950-51	181.19	137.15	275.85
1951-52	185.65	137.92	306 34
1952-53	189.44	143.16	327.10
1953-54	188.60	151.80	351.79

The growth of the movement since 1906-1907 shows that between 1906-10 and 1953-54 the no. of Socys., increased from 1930 to ... 1986000, membership from 161910 to 15,180000 and Working Capital W. C. from Rs. 0.68 Cr. to Rs. 351.79 Cr. During the seven years from the achievement of Political freedom the movement has made remarkable progress. The total number of societies increased by 67% and the Working Capital W. C. increased by 126%.

The Agricultural Credit Societies continued to constitute the largest number of Societies & their percentage to the total rose from 64.3 in 1951-52 to 69.3 in 1953-54. The average Working Capital per society & per member in Agricultural Credit Societies shows vide variations. The average W. C. per socy was highest in Bombay Rs. 14600 closely followed by Coorge Rs. 10886 and Andhra Rs. 9150. Saurasthra Rs. 7602 and Madras Rs. 7443. As regards Working Capital per member Bombay's average at Rs. 135 was the highest followed by Saurasthra 172 & Madhya Pradesh 161. The average working capital per member was less than Rs. 50 in Bihar. Jammu & Kashmir, Travancore-Cochin, Himachal Pradesh, Manipur, Tripura & Vindhya Pradesh. The percentage of Villages covered was highest in Delhi (80.2%), closely followed by Coorge (72%), Bombay (69%), Ajmer (61.8%), and Punjab (55.2%). It was below 50% in all the rest of the States. The general average membership per Socy. was 41 in 1912-13, 34 in 1929-30 & 37 in 1945-46. It has increased to 45 in 1952-53 and 46 in 1953-54.

The fresh loans increased from Rs. 24.21 Cr. in 1951-52 to Rs. 29.64 Cr. in 1953-54. The States of Bombay, Madras, and Andhra, accounted for 57% of the total advances. Bombay has out-distanced other States in respect of the total volume of finance provided as well as the average amount advanced by the societies. The recoveries of the loans however continued to be unsatisfactory. The overdues were 29% in 1953-54 as against 27.8% in 1952-53 and rose as high as 31% in Bombay.

In a number of States, the efforts were made to reduce the lending rates especially where the funds from Reserve Bank were utilised appreciably as in case of West Bengal & Hyderabad where the rates are reduced to 7½% from 12½% and 7.13/16% from 9.3/8% respectively.

The policy of organisation of more and more Multi-Purpose Societies and converting the existing credit societies into Multi-purpose societies was continued in many States as a result of which the number of multi-purpose societies increased from 41412 in 1952-53 to 48669 in 1953-54. However these societies were not able to undertake multi-purpose functions successfully.

Central Banks

The number of Central Banks was 469 in 1947-48, 505 in 1952-53 and 499 in 1953-54. From 1.18 Lakh individual & 1.13 Lakh Societies in 1951-52 the membership rose

to 1.30 Lakh individual & 1.18 Lakh Societies in 1952-53. During the year 1953-54 a healthy trend was observed when the number of Individual members declined to 1.22 Lakh while the number of affiliated societies increased to 1.26 Lakh. The share capital and owned funds deposits and working capital increased to Rs. 600.36 Lakh, 1180.78 Lakh, 4118.22 Lakh and 6611.09 lakh resp. in 1953-54 as against the corresponding figures of Rs. 518.74 Lakh, 1066.37 lakh, 3910.28 lakh and 6128.25 lakh for the year 1952-53. The average working capital per Central Bank was 56.37 lakh in Bombay, 75.66 lakh in Madras and 55.57 lakh in Andhra and 36.20 in Travancore-cochin. In the rest of the States it ranged from 12.54 lakh to 0.54 lakh and was less than the all India average of Rs. 23.52 lakh.

During the year 1953-54 the fresh advances to Banks & Societies amounted to Rs. 52.21 lakh as against Rs. 59.49 lakh in 1952-53, while the fresh advances to individuals amounted to 12.49 lakh as against Rs. 6.09 lakh in 1952-53. Thus there was a steep fall in volume of fresh loans to cooperatives and Banks and a sharp rise in advances to individuals. The overdues rose from Rs. 615.226 lakh in 1952-53 to Rs. 667.76 in 1953-54 their percentage to total outstanding being 17.4%

Provincial Banks

The total number of State or Apex banks was 22 in 1953-54. The total membership of Appex banks consisted of 11613 individuals and 21270 banks and societies in 1953-54. The total share capital of the appex banks amounted to Rs. 274.80 lakh out of which Rs. 124.75 lakh was, by way of Government-contribution. The owned funds and working capital stood at Rs. 561.03 lakh and Rs. 4084.10 lakh respectively in 1953-54 as against the corresponding figure of Rs. 488.96 lakh and Rs. 3863.87 lakh in 1952-53.

The fresh advances to individuals and banks and societies were Rs. 574.25 lakh and Rs. 3419.07 lakh resp. in 1952-53 which increased to Rs. 920.46 lakh and Rs. 4256.71 lakh resp. in 1953-54. The recoveries were at a satisfactory level. The overdues declined from Rs. 328.44 lakh in 1952-53 to Rs. 297.14 lakh in 1953-54. The bad and doubtful debts rose alarmingly from Rs. 15.08 lakh in 1952-53 to Rs. 167.03 lakh in 1953-54.

Non-Agricultural Credit Societies

The number of non-agricultural credit societies of all types was 8389 in 1953-54 as against 8234 in 1952-53. In respect of the membership owned funds working capital and loans issued, they have made satisfactory progress in 1953-54 as can be seen from the table given below.

(Rs. in lakhs)

Year	No.	Member	O.F.	W.C.	Loans issued
I.	2.	3.	4.	5.	6.
52-53	8234	2515720	2105.67	6838.05	5433.55
53-54	8384	2740040	2322.02	6988.66	6036.90

Among the Urban Credit Societies, Urban banks are important. Their no. was 716 in 1953-54. The membership owned funds deposits, working capital & fresh advances were Rs. 708014, 2412.16, 3298.77, 2686.68 resp. in 53-54.

In the case of Urban Credit Societies the States of Bombay and Madras commanded 30% of no. of Societies, and 56% of membership & 63% of working capital, similarly in case of Urban Banks as such, the States of Bombay, Madras & Andhra commanded 61% of number of societies, more than 3/4 of member ship and 92% of total working capital. The total no of Salary earners societies rose from 3081 in 52-53 to 3312 in 53-54. They also showed steady progress in respect of membership, deposits, advances etc. These societies meet the credit needs of employees in large establishments.

(to be continued)

BOOK REVIEW

'SARVODAYA OR SOCIALISM',

By Prof. K. N. Vaswani, Director Gandhi Society, No. 10E, Reading Lane quarters, New Delhi. (Price not given)

THIS brochure is a collection of some of the articles contributed by Prof. K. N. Vaswani, in different papers and periodicals on the theme of social reconstruction which is being attempted in the country by the Government through the Planning Commission. In the course of his articles he has analysed Socialistic versus Sarvodaya methods, the former presented by the Planning Commission and the latter by Shri Vinoba Bhave and his Bhoodan Movement, and stressed the need to adopt the latter method for national reconstruction, which, in his view, is in conformity with Indian genious and the Gandhian way of life.

Prof. Vaswani, himself being a staunch Gandhite believes in Bhoodan way of national reconstruction, which besides being voluntary, spontaneous and human puts check on human selfishness and narrowness and developes qualities of social consciousness and social obligation in the individual. He insists on ' Building moral fabric of the Man in India' which is the basis of building a great nation both morally and materially. In support of his theme, he has included quotations from Mahatma Gandhi, Tagore, Arabindo Ghosh and Swami Vivekanand, which enhance the the usefulness of the brochure.

Obviously, the author has deprecated the Socialistic way of plannning, which he believes, is borrowed from the West and is not suited to the genious of the country. The brochure is worth reading by all those who are interested in constructive work and rural reconstruction programme of the country and is available from the author.

"Fifty Eventful years of service for the development of sericulture, Industry in Mysore State"

By V. M. Appadhorai Mudaliar. (Issued under the auspices Appadhorai's Sericultural Academy, Bangalore, Rs. 1/8.)

Sericulture is one of our country's main cottage Industries, which provides immense scope for development on scientific lines. Shri V. M. Appadhorai Mudaliar, who runs his Sericulture Farm, near Bangalore (Mysore State) has devoted fifty years of his life in the development of this Industry and made it a success in Mysore State. He is one of our sericulture experts and the services rendered by him in the development of this industry set a living example of devotion to a worthy cause which is worthy of emulation by our younger generation of constructive workers who are now engaged in the development of various cottage industries in all parts of the country.

This pamphlet has been published by his *numerous* admirers in appreciatian of his pioneering services to the development of sericulture in Mysore State and provides glimpses of the early and difficult phase of this industry and the patient efforts of early pioneers like Shri Appadhorai Mudaliar whose life-long devotion has contributed to its present stage of development and success.

G. K. P.

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